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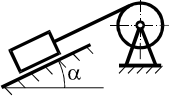
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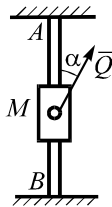
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1.	,	5
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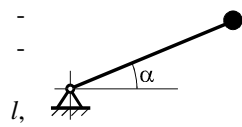
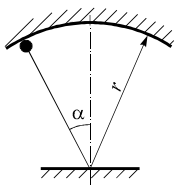
<p>1</p>  <p>α r</p>	<p>2</p> <p>$m = 1000$</p> <p>$R = 0,3$</p> <p>$\varepsilon = 2t / c^2$</p> <p>$t_1 = 5$</p>
<p>3</p> <p>$m = 4000$</p> <p>$v = 54 /$</p> <p>$F = 8t$</p>	<p>4</p> <p>70</p> <p>100</p> <p>0,5</p> <p>2 /</p>
<p>5</p> <p>$a = 30 / c^2$</p> <p>$F = 10$?</p>	<p>6</p> <p>β</p> <p>?</p> <p>m</p>

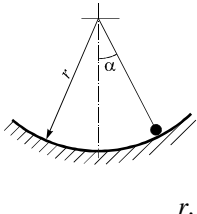
<p>7</p> <p>$m = 600$</p> <p>$R = 0,2$</p> <p>$\varepsilon = 1 / ^2$</p>	<p>8</p> <p>t</p> <p>s</p> <p>T</p>
<p>9</p> <p>60</p> <p>1:50</p> <p>72 / .</p> <p>1</p> <p>60 / .</p> <p>0,1</p>	<p>10</p> <p>80</p> <p>18 / .</p> <p>100 ,</p> <p>12000 .</p>
<p>11</p> <p>m ()</p> <p>m_1</p>	<p>12</p> <p>180 ,</p> <p>$= 1,5 / ^2$</p> <p>1 / 4,9 .</p> <p>36 / .</p>
<p>13</p> <p>0,07</p> <p>90 ,</p> <p>31 .</p> <p>?</p>	<p>14</p> <p>f</p> <p>0,2 / ^2 .⁶</p>

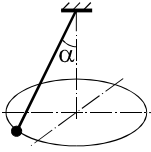
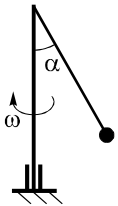
<p>15</p> <p>1,5</p> <p>0,02.</p> <p>$\frac{72}{-200}$</p>	<p>16</p> <p>$\varphi = \frac{1}{2}at^2$ (t -),</p> <p>f.</p>
<p>17</p> <p>m</p> <p>a</p> <p>F,</p> <p>f.</p>	<p>18</p> <p>F,</p> <p>G.</p>
<p>19</p> <p>2 / 1,5</p>	<p>20</p> <p>?</p>
<p>21</p> <p>$F_2, F_3,$ 1:2:3,</p> <p>3</p> <p>$3 / ^2$</p>	<p>22</p> <p>F</p> <p>3</p> <p>4,5 / ².</p> <p>0,06.</p> <p>F.</p>

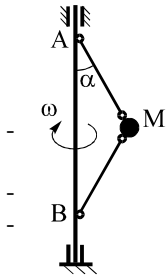
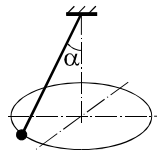
<p>23 , - , - <i>m</i>. - = 0,5g?</p>	<p>24 2 - - - , - 4 8 .</p>
<p>25 , - , - <i>R</i>, - $\omega = kt$, <i>k</i> - - . - .</p>	<p>26 $m = 1,5$ - $= 0,6 / ^2$ - $= 60^\circ$, - . - $f = 0,2$. - .</p>
<p>27 , <i>m</i> - <i>Ox</i>, - $x = at^2 + be^{kt}$, - , <i>b</i>, <i>k</i> - . <i>F</i>, - .</p>	<p>28 <i>f</i> - , - 72 / , - , - 50 - 36 / .</p>
<p>29 800 , - 40 - 840 , - 54 / . - ($k = 0,008$). - , - 0,03 .</p>	<p>30 20 - $a = 2 / ^2$ - $\alpha = 30^\circ$ - <i>Q</i>, - <i>M</i>  - <i>B</i> - <i>Q</i>, - $f = 0,2$.</p>

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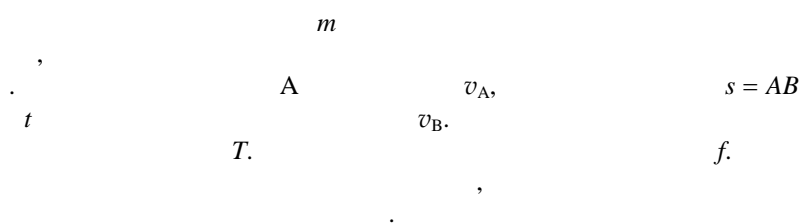
<p>1</p> <p>$m,$</p> <p>$l,$</p> <p>$v.$</p> <p>$\alpha.$</p> 	<p>2</p> <p>$m = 70$</p> <p>“ ”.</p> <p>$v = 300 /$</p> <p>$R = 250 .$</p>
<p>3</p> <p>m</p> <p>$v.$</p> <p>$r \alpha.$</p> 	<p>4</p> <p>$l.$</p> <p>$m.$</p>
<p>5</p> <p>$72 / ,$</p> <p>$5 ,$</p> <p>$200 .$</p> <p>(</p>	<p>6</p> <p>$R = 1$</p> <p>$s = t^2 - t + 1 (s -$</p> <p>$, t -$</p> <p>$F,$</p> <p>$t = 0,5 .$</p>
<p>7</p> <p>$r = 2$</p> <p>$f = 0,4?$</p>	<p>8</p> <p>$R = 30$</p> <p>$f = 0,3.$</p>

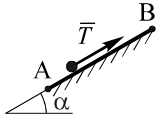
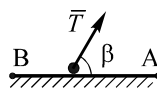

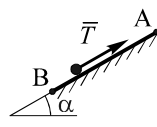
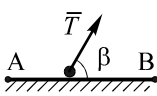
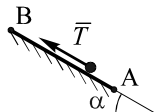
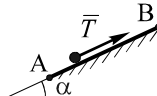
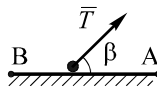
<p>9</p> <p>$m = 78$</p> <p>“ ”,</p> <p>4 6 . ,</p> <p>$l = 1,2$</p> <p>,</p>	<p>10</p> <p>l</p> <p>,</p> <p>.</p> <p>$m.$</p>
<p>11</p> <p>,</p> <p>$= 0,85$ / ,</p> <p>$r = 2$</p> <p>?</p>	<p>12</p> <p>$m = 2$</p> <p>$v = 72$ /</p> <p>,</p> <p>$R = 100$.</p> <p>.</p>
<p>13</p> <p>,</p> <p>72 / .</p> <p>100 .</p> <p>?</p>	<p>14</p> <p>$R = 4$.</p> <p>,</p> <p>$f = 0,27?$</p>
<p>15</p> <p>-</p> <p>m</p> <p>-</p> <p>v</p> <p>,</p> <p>.</p>  <p>$r.$</p> <p>-</p>	<p>16</p> <p>,</p> <p>$m = 1$,</p> <p>,</p> <p>$R = 20$</p> <p>.</p> <p>,</p> <p>$F = 180$ H.</p>

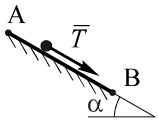
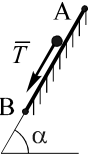
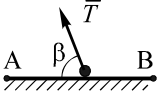
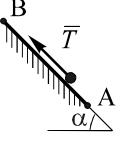

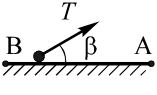

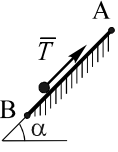
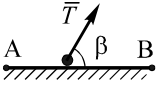
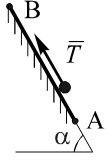
<p>17</p> <p>«</p> <p>» $R = 100$</p> <p>$v = 280$ / .</p> <p>$m = 80$</p> <p>?</p>	<p>18</p> <p>m</p>  <p>$l,$</p> <p>$\alpha.$</p>
<p>19</p> <p>l</p> <p>,</p> <p>.</p> <p>,</p> <p>.</p>	<p>20</p> <p>1500</p> <p>1 / .</p> <p>3 .</p> <p>.</p> <p>,</p> <p>.</p>
<p>21</p> <p>()</p> <p>,</p> <p>$v.$</p>	<p>22</p> <p>ω</p> <p>l</p> <p>-</p> <p>$m.$</p> <p>.</p>
<p>23</p> <p>m</p> <p>$l,$</p> <p>ω</p>  <p>,</p> <p>.</p> <p>?</p>	<p>24</p> <p>$Oxyz$</p> <p>$x = t^3, y = 2t^2, z = 3t.$</p> <p>$F,$</p> <p>.</p>

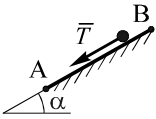
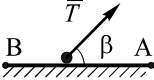

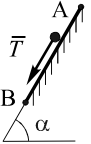
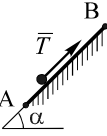
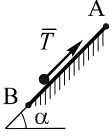
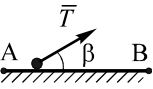
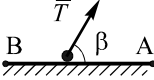
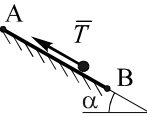
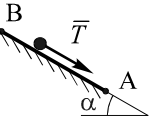
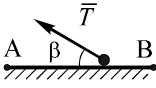
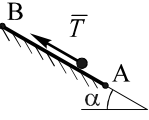
<p>25</p> <p>$m = 60$</p> <p>2 3</p> <p>$l = 1$</p>	<p>26</p> <p>$m = 3$</p> <p>$v = 36$ /</p> <p>$= 20$</p> <p>15°</p>
<p>27</p> <p>$m = 15$</p> <p>$v = 18$ /</p> <p>$f = 0,4$</p> <p>$R = 100$</p>	<p>28</p> <p>m</p>  <p>l</p> <p>$= 30^\circ$</p>
<p>29</p> <p>$m = 5000$</p> <p>$v = 36$ /</p> <p>20</p> <p>30°</p>	<p>30</p> <p>$l = 0,3$</p>  <p>$m = 0,2$</p> <p>$\alpha = 30^\circ$</p>

3



<p>1</p> <p>$v_A = 0; m = 10$; $T = 80$; $f = 0,1$; $s = 15$; $\alpha = 30^\circ$.</p>  <p style="text-align: center;">v_B, t.</p>	<p>2</p> <p>$v_A = 36$ / ; $v_B = 0$; $\alpha = 60^\circ; m = 0,2$; $T = 0,2$; $t = 3$.</p>  <p style="text-align: center;">f, s.</p>
<p>3</p> <p>$v_A = 10$ / ; $v_B = 0$; $m = 20$; $f = 0,35$; $T = 0,1$; $s = 10$.</p>  <p style="text-align: center;">v_A, t.</p>	<p>4</p> <p>$v_A = 18$ / ; $v_B = 0$; $T = 5$; $m = 200$; $\alpha = 30^\circ; t = 10$.</p>  <p style="text-align: center;">s, f.</p>
<p>5</p> <p>$v_A = 0; v_B = 3$ / ; $T = 25$; $m = 4$; $s = 2$; $\alpha = 60^\circ$.</p>  <p style="text-align: center;">t, f.</p>	<p>6</p> <p>$v_A = 0; m = 0,1$; $f = 0,2; T = 2$; $s = 50$; $\alpha = 30^\circ$.</p>  <p style="text-align: center;">v_B, t.</p>
<p>7</p> <p>$v_A = 0; T = 0,6$; $m = 60$; $f = 0$; $s = 60$; $t = 4$.</p>  <p style="text-align: center;">v_B, s.</p>	<p>8</p> <p>$v_B = 0; m = 0,05$; $f = 0,25; T = 15$; $t = 3$; $\alpha = 45^\circ$.</p>  <p style="text-align: center;">v_A, s.</p>

<p>9</p> <p>$v_A = 0; T = 2$; $m = 5$; $f = 0,35$; $s = 10$; $\alpha = 30^\circ$.</p>  <p>v_B, t.</p>	<p>10</p> <p>$v_A = 0; v_B = 90$ / ; $T = 0,1$; $s = 25$; $f = 0,05$; $\alpha = 60^\circ$.</p>  <p>t, m.</p>
<p>11</p> <p>$v_A = 30$ / ; $v_B = 0$; $T = 100$; $m = 20$; $f = 0,612$; $t = 5$.</p>  <p>$s, .$</p>	<p>12</p> <p>$v_A = 18$ / ; $v_B = 0$; $T = 5$; $m = 2$; $f = 0,1$; $\alpha = 45^\circ$.</p>  <p>s, t.</p>
<p>13</p> <p>$v_A = 10$ /c; $v_B = 25$ /c; $m = 10$; $s = 14$; $f = 0,2$; $\alpha = 60^\circ$.</p>  <p>T, t.</p>	<p>14</p> <p>$v_B = 3,6$ / ; $f = 0,3$; $T = 1$; $m = 0,1$; $s = 50$; $\alpha = 30^\circ$.</p>  <p>v_A, t.</p>
<p>15</p> <p>$v_A = 20$ / ; $v_B = 15$ / ; $m = 50$; $f = 0,1$; $t = 3$; $\alpha = 60^\circ$.</p>  <p>T, s.</p>	<p>16</p> <p>$v_A = 7,2$ / ; $t = 6$; $m = 10$; $f = 0,3$; $s = 15$; $\alpha = 45^\circ$.</p>  <p>v_B, T.</p>
<p>17</p> <p>$v_A = 18$ / ; $t = 4$; $T = 0,2$; $\alpha = 60^\circ$; $m = 125$; $s = 62,5$.</p>  <p>v_B, f.</p>	<p>18</p> <p>$v_A = 0; v_B = 36$ / ; $T = 500$; $m = 10$; $f = 0,1$; $\alpha = 60^\circ$.</p>  <p>s, t.</p>

<p>19 :</p> <p>$v_A = 100$ / ; $v_B = 0$; $T = 100$; $m = 25$; $= 30^\circ$; $t = 10$.</p>  <p>: s, f.</p>	<p>20 :</p> <p>$v_B = 72$ / ; $t = 6$; $m = 2$; $f = 0,1$; $s = 150$; $= 45^\circ$.</p>  <p>: v_A, T.</p>
<p>21 :</p> <p>$v_A = 0$; $m = 0,1$; $f = 0,2$; $T = 0,15$; $t = 2$; $= 60^\circ$.</p>  <p>: v_B, s.</p>	<p>22 :</p> <p>$v_A = 18$ / ; $v_B = 90$ / ; $m = 300$; $f = 0,3$; $= 200$; $= 60^\circ$.</p>  <p>: s, t.</p>
<p>23 :</p> <p>$v_A = 0$; $T = 2,5$; $m = 0,2$; $t = 1,6$; $s = 80$; $= 45^\circ$.</p>  <p>: v_B, f.</p>	<p>24 :</p> <p>$v_A = 0$; $v_B = 20$ / ; $T = 15$; $t = 20$; $f = 0,1$; $= 45^\circ$.</p>  <p>: s, m.</p>
<p>25 :</p> <p>$T = 0,8$; $m = 1,2$; $v_A = 2$ / ; $f = 0,05$; $s = 10$; $= 30^\circ$.</p>  <p>: v_B, t.</p>	<p>26 :</p> <p>$v_A = 108$ / ; $v_B = 0$; $T = 150$; $m = 600$; B $= 60^\circ$; $t = 6,1$.</p>  <p>: s, f.</p>
<p>27 :</p> <p>$m = 100$; $v_B = 30$ / ; $T = 75$; $s = 15$; $t = 3$; $= 30^\circ$.</p>  <p>: f, v_A.</p>	<p>28 :</p> <p>$v_A = 54$ / ; $v_B = 0$; $f = 0$; $T = 0,5$; $m = 400$; $s = 20$.</p>  <p>: , t.</p>
<p>29 :</p> <p>$v_A = 72$ / ; $v_B = 0$; $T = 60$; $s = 29$; $f = 0,25$; $= 30^\circ$.</p>  <p>: t, m.</p>	<p>30 :</p> <p>$v_A = 0$; $v_B = 30$ / c ; $m = 100$; $s = 9,5$; $f = 0,2$; $= 30^\circ$.</p>  <p>: T, t.</p>

4

m

x

s

F

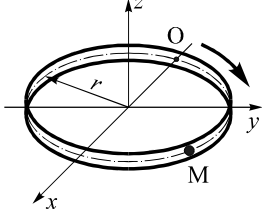
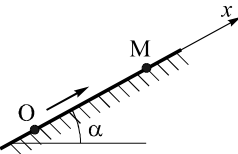
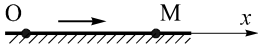
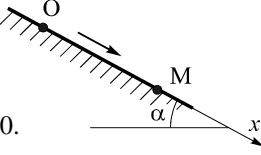
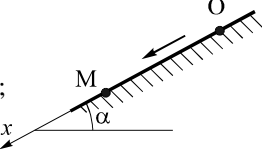
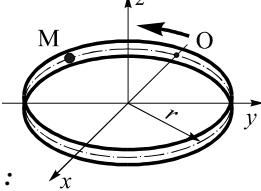
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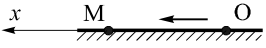
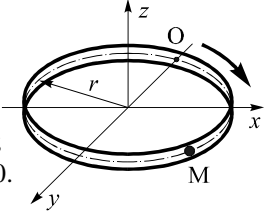
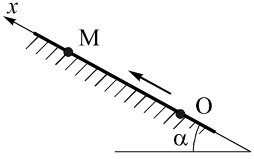

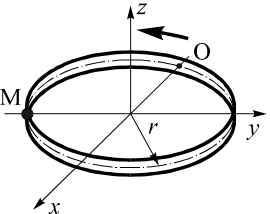
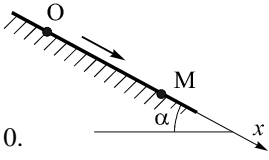

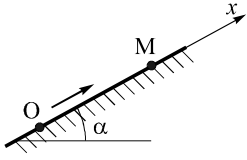
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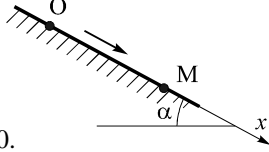
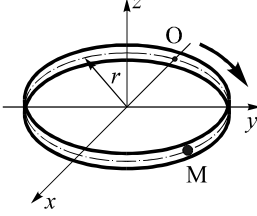
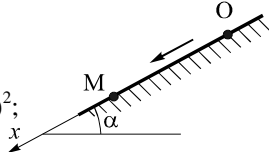
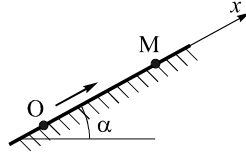
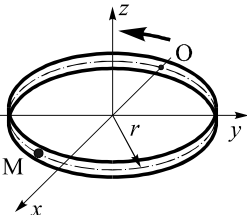

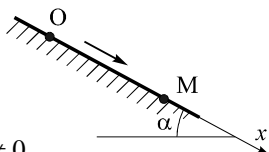
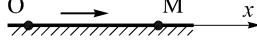
x_0

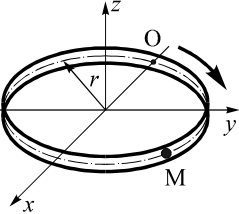
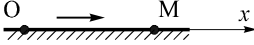
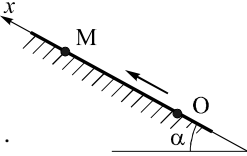
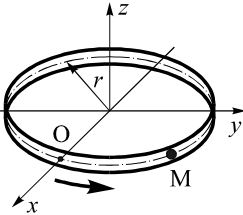
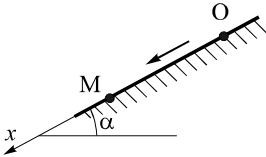

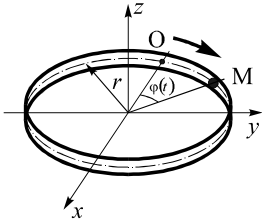
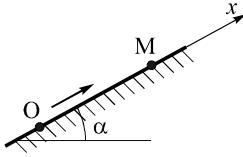
s_0

$-v_0$

<p>1</p> <p>$: m; r;$ $F = bv;$ $v_0 \neq 0.$</p>  <p>$N = f(t).$</p>	<p>2</p> <p>$: m; \alpha;$ $F = bt;$ $v_0 \neq 0;$ $x_0 = 0.$</p>  <p>$x = f(t).$</p>
<p>3</p>  <p>$: m;$ $F = b \sin kt;$ $v_0 \neq 0; x_0 = 0.$</p> <p>$x = f(t).$</p>	<p>4</p>  <p>$: m; \alpha;$ $F = bx^2;$ $v_0 \neq 0; x_0 = 0.$</p> <p>$v = f(x).$</p>
<p>5</p>  <p>$: m; \alpha;$ $F = bt - kt^2;$ $v_0 = 0;$ $x_0 = 0.$</p>	<p>6</p>  <p>$: m; r;$ $F = be^{kt};$ $v_0 = 0.$</p> <p>$a_n = f(t).$</p>

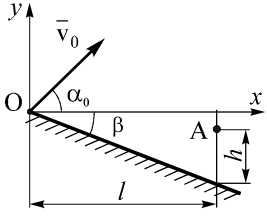
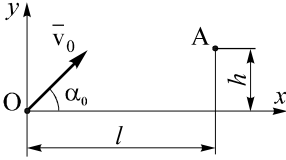
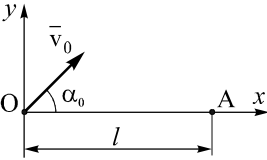
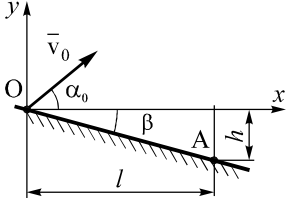
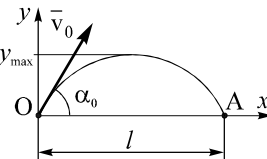
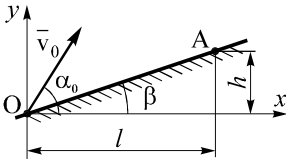
<p>7</p>  <p>: m;</p> $F = \frac{k}{(t+b)^2}; v_0 = \frac{k}{mb}; x_0 = 0.$ <p>:</p> $x = f(t).$	<p>8</p>  <p>: m;</p> $F = b \cos kt;$ $v_0 \neq 0; s_0 = 0.$ <p>:</p> $s = f(t).$
<p>9</p>  <p>: $m; \alpha$;</p> $F = bx;$ $v_0 = 0; x_0 = 0.$ <p>:</p> <p>,</p> $v_1.$	<p>10</p>  <p>: m;</p> $F = be^{-kt};$ $v_0 \neq 0; x_0 = 0.$ <p>:</p> <p>,</p>
<p>11</p>  <p>: $m; r$;</p> $F = bs;$ $v_0 = 0;$ $s_0 = 0.$ <p>:</p> $N = f(t).$	<p>12</p>  <p>: $m; \alpha$;</p> $F = bt;$ $v_0 \neq 0; x_0 = 0.$ <p>:</p> <p>,</p>
<p>13</p>  <p>: m;</p> $F = be^{-kt};$ $v_0 \neq 0; x_0 = 0.$ <p>:</p> $x = f(t).$	<p>14</p>  <p>: $m; \alpha$;</p> $F = bx;$ $v_0 \neq 0; x_0 = 0.$ <p>:</p> <p>,</p> $v = f(t)$ $x = f(t).$

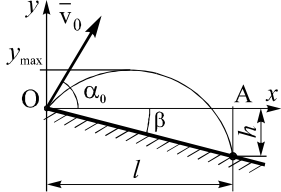
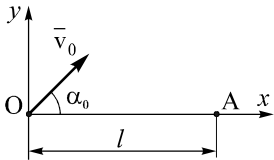
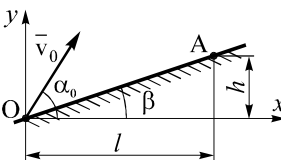
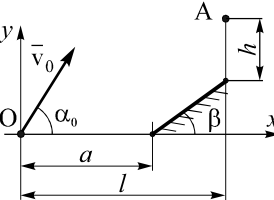
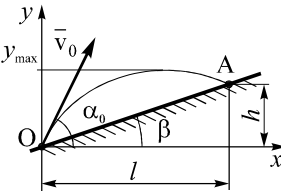
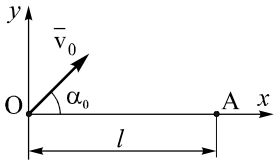
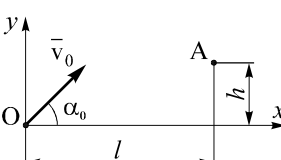
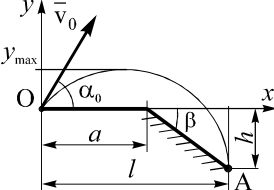
<p>15</p>  <p> $: m; \alpha;$ $F = bt^2 + t;$ $v_0 = 0; x_0 = 0.$ </p> <p>:</p> <p>.</p>	<p>16</p>  <p> $: m; r;$ $F = bv^2;$ $v_0 \neq 0;$ $s_0 = 0.$ </p> <p>:</p> <p>$N = f(t).$</p>
<p>17</p>  <p> $: m; \alpha;$ $F = b(t+k)^2;$ $v_0 = 0;$ $x_0 = 0.$ </p> <p>:</p> <p>$x = f(t).$</p>	<p>18</p>  <p> $: m; \alpha;$ $F = bt;$ $v_0 \neq 0;$ $x_0 = 0.$ </p> <p>:</p> <p>.</p>
<p>19</p>  <p> $: m; r;$ $F = b \sin kt;$ $v_0 \neq 0;$ $s_0 = 0.$ </p> <p>:</p> <p>$N = f(t).$</p>	<p>20</p>  <p> $: m;$ $F = bv^2;$ $v_0 \neq 0; x_0 = 0.$ </p> <p>:</p> <p>$x = f(t).$</p>
<p>21</p>  <p> $: m; \alpha;$ $F = b/x^2;$ $v_0 = 0; x_0 \neq 0.$ </p> <p>:</p> <p>$v = f(t).$</p>	<p>22</p>  <p> $: m;$ $F = be^{kt};$ $v_0 \neq 0; x_0 \neq 0.$ </p> <p>:</p> <p>$x = f(t).$</p>

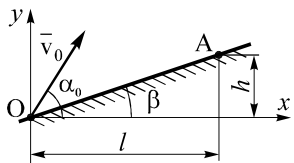
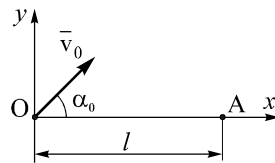
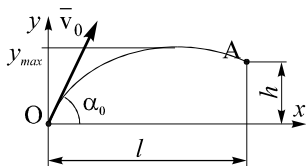
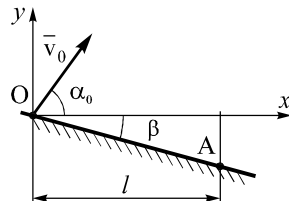
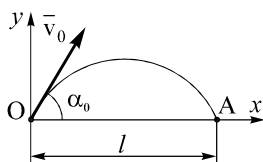
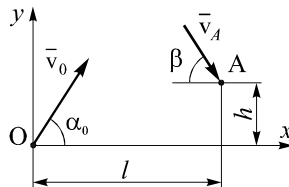
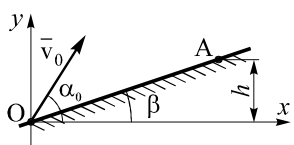
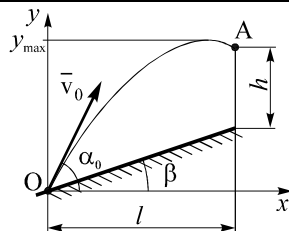
<p>23</p> <p>$: m; r;$ $F = b \cos kt;$ $v_0 \neq 0; s_0 = 0.$</p>  <p>$s = f(t).$</p>	<p>24</p>  <p>$: m;$ $F = bx^2;$ $v_0 \neq 0; x_0 = 0.$</p> <p>$x = f(t).$</p>
<p>25</p> <p>$: m; \alpha;$ $F = b/x;$ $v_0 \neq 0; x_0 \neq 0.$</p> 	<p>26</p> <p>$: m; r;$ $F = b \sin kt;$ $v_0 \neq 0.$</p>  <p>$a_n = f(t).$</p>
<p>27</p> <p>$: m; \alpha;$ $F = bt;$ $v_0 = 0;$ $x_0 \neq 0.$</p> 	<p>28</p>  <p>$: m;$ $F = bt + k;$ $v_0 \neq 0; x_0 \neq 0.$</p>
<p>29</p> <p>$: m; r;$ $F = bs;$ $v_0 = 0;$ $s_0 \neq 0.$</p>  <p>$\varphi = f(t).$</p>	<p>30</p> <p>$: m; \alpha;$ $F = br^3 - t^2;$ $v_0 \neq 0;$ $x_0 = 0.$</p>  <p>$x = f(t).$</p>

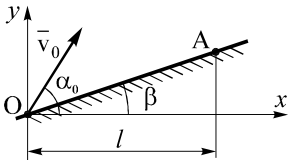
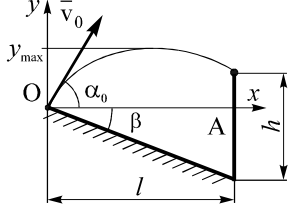
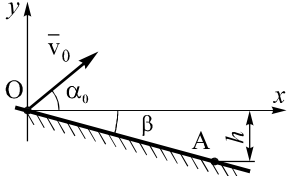
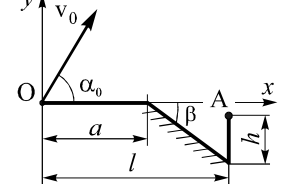
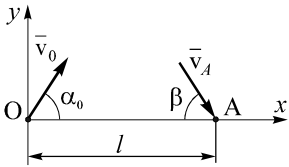
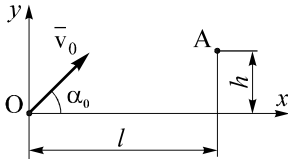
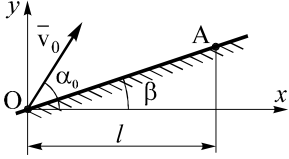
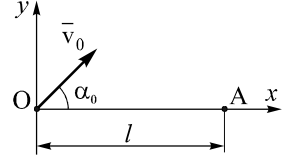
5

$x, y,$
 t
 $v_A,$
 $v_0,$
 x $\alpha_0,$

<p>1</p>  <p> $: v_0, t, l, \beta.$ $: \alpha_0, h.$ </p>	<p>2</p>  <p> $: v_0, \alpha_0, h.$ $: t, l.$ </p>
<p>3</p>  <p> $: v_0, \alpha_0.$ $: l, y = f(x).$ </p>	<p>4</p>  <p> $: \alpha_0, t, \beta.$ $: l, y = f(x).$ </p>
<p>5</p>  <p> $: \alpha_0, t.$ $: y_{\max}, l.$ </p>	<p>6</p>  <p> $: v_0, h, \beta.$ $: t, \alpha_0.$ </p>

<p>7</p>  <p>$\therefore v_0, \alpha_0, t.$</p> <p>$\therefore y_{\max}.$</p>	<p>8</p>  <p>$\therefore \alpha_0, l.$</p> <p>$\therefore v_0, t.$</p>
<p>9</p>  <p>$\therefore v_0, \alpha_0, l.$</p> <p>$\therefore v_A, .$</p>	<p>10</p>  <p>$\therefore v_0, \alpha_0, t, h, a.$</p> <p>$\therefore y = f(x).$</p>
<p>11</p>  <p>$\therefore \alpha_0, t, l.$</p> <p>$\therefore y_{\max}, .$</p>	<p>12</p>  <p>$\therefore \alpha_0, t.$</p> <p>$\therefore v_A, l.$</p>
<p>13</p>  <p>$\therefore \alpha_0, h, l.$</p> <p>$\therefore v_0, v_A, .$</p>	<p>14</p>  <p>$\therefore \alpha_0, \beta, t, h.$</p> <p>$\therefore y_{\max}, a.$</p>

15: $\alpha_0, \beta, h.$: $v_0, l.$ **16**: $v_0, l.$: $\alpha_0, t.$ **17**: $v_0, h, t.$: $y_{\max}, l.$ **18**: $\beta, l, t.$: $v_0, \alpha_0.$ **19**: $v_0, t.$: $\alpha_0, l.$ **20**: $v_0, v_A, \beta.$: $h, l.$ **21**: $v_0, \beta, t.$: $\alpha_0, l.$ **22**: $\alpha_0, \beta, t, l.$: $h, y_{\max}.$

<p>23</p>  <p>$\therefore v_0, v_A, \alpha.$</p> <p>$\therefore t, y = f(x).$</p>	<p>24</p>  <p>$\therefore v_0, \alpha_0, l, \beta.$</p> <p>$\therefore h, y_{\max}.$</p>
<p>25</p>  <p>$\therefore v_0, t, l.$</p> <p>$\therefore \alpha_0, \beta.$</p>	<p>26</p>  <p>$\therefore t, a, h, l, \beta.$</p> <p>$\therefore v_0, \alpha_0.$</p>
<p>27</p>  <p>$\therefore v_0, v_A, \beta.$</p> <p>$\therefore y_{\max}, l.$</p>	<p>28</p>  <p>$\therefore v_0, l, h.$</p> <p>$\therefore \alpha_0, t.$</p>
<p>29</p>  <p>$\therefore v_0, \alpha_0, \beta.$</p> <p>$\therefore t, h.$</p>	<p>30</p>  <p>$\therefore l, t.$</p> <p>$\therefore v_0, \alpha_0.$</p>

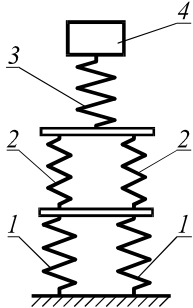
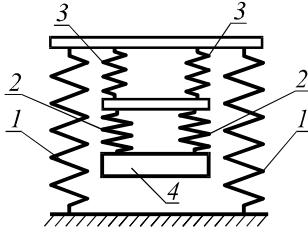
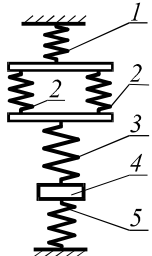
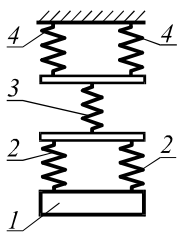
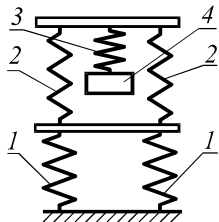
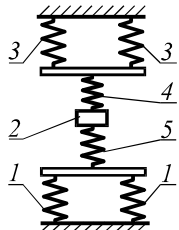
6

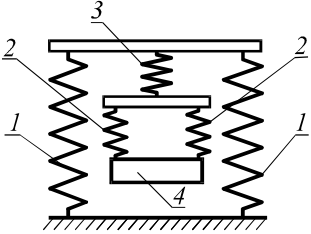
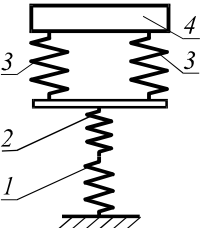
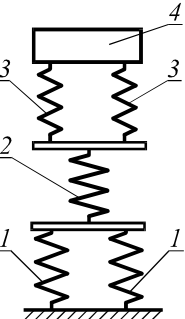
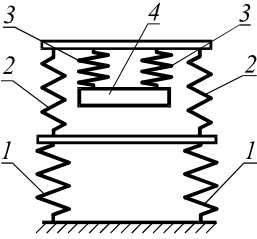
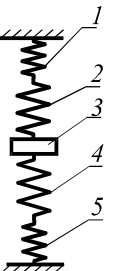
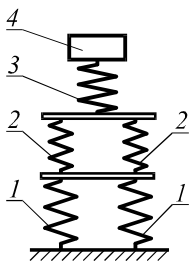
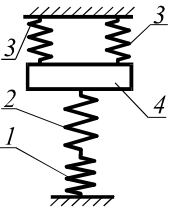
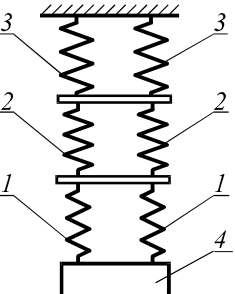
<p>1</p> $\ddot{x} + 2\sqrt{1,5}\dot{x} + 4x = 0,4 \cdot \sin \sqrt{2}t .$	<p>2</p> $0,01\ddot{x} + \dot{x} + 25x = 0 .$
<p>3</p> $0,5\ddot{x} + \dot{x} + 130x = 10 \sin \omega t .$ <p style="text-align: right;">$\omega,$</p>	<p>4</p> $m\ddot{x} + b\dot{x} + cx = 0 .$
<p>5</p> $\ddot{x} + 2\dot{x} + 4x = 0 .$	<p>6</p> $0,1\ddot{x} + 1,2\dot{x} + 10x = 15 \sin 10t .$
<p>7</p> $\ddot{x} + 2\sqrt{3}\dot{x} + 8x = 0,8 \sin 2t .$	<p>8</p> $m\ddot{x} + b\dot{x} + cx = 0 . \quad , \quad > bm^2 .$
<p>9</p> $0,2\ddot{x} + 2\dot{x} + 25x = 10 \sin \pi t .$ <p style="text-align: right;">?</p>	<p>10</p> $0,5\ddot{x} + 18x = 3 \cdot \sin 6t .$ <p style="text-align: right;">? ?</p>
<p>11</p> $m\ddot{x} + b\dot{x} + cx = 0 .$	<p>12</p> <p>m ,</p> <p style="text-align: right;">50 .</p>

<p>13</p> <p>$2\ddot{x} + 2\dot{x} + cx = 0.$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">c,</p>	<p>14</p> <p>$0,05\ddot{x} + 0,6\dot{x} + 5x = 0.$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">: $x_0 = 0;$</p> <p>$v_0 = 0,8 / .$</p> <p style="text-align: right;">-</p>
<p>15</p> <p>$x = 0,02e^{-t} \sin(8t - \frac{\pi}{5}).$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">b.</p>	<p>16</p> <p>$2\ddot{x} + b\dot{x} + 18,5x = 0.$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">$= \frac{2\pi}{3} .$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">b.</p>
<p>17</p> <p>$0,1\ddot{x} + cx = 0,2 \sin 10t .$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">,</p> <p>$= 0,02 .$</p> <p style="text-align: right;">-</p>	<p>18</p> <p>$0,05\ddot{x} + 3\dot{x} + cx = 0 .$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">$= \frac{\pi}{45} .$</p> <p style="text-align: right;">-</p>
<p>19</p> <p>$2\ddot{x} + b\dot{x} + 12,5x = 0 .$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">b,</p> <p style="text-align: right;">-</p>	<p>20</p> <p>$0,01\ddot{x} + 50x = 0,1 \sin \omega t .$</p> <p style="text-align: right;">-</p> <p>$= 0,1 .$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">$\omega.$</p>
<p>21</p> <p>$0,01\ddot{x} + b\dot{x} + 49x = 0 .$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">$= \frac{\pi}{35} .$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">b.</p>	<p>22</p> <p>$0,1\ddot{x} + 10\dot{x} + 250x = 0 .$</p> <p style="text-align: right;">-</p> <p style="text-align: right;">: $x_0 = 0,01 ;$</p> <p>$v_0 = 0,1 / .$</p> <p style="text-align: right;">-</p>

<p>23</p> <p>$0,1\ddot{x} + 2\dot{x} + 170x = 0$. -</p> <p>$x_0 = -0,01$; -</p> <p>$v_0 = 0$. -</p>	<p>24</p> <p>$\ddot{x} + b\dot{x} + 100x = 0$. -</p> <p>b , -</p>
<p>25</p> <p>$x = 0,025e^{-t} \sin(7t + 0,1\pi)$. -</p> <p>$= 300$ / . -</p>	<p>26</p> <p>m , -</p> <p>c . -</p> <p>$F' = bv$. -</p> <p>$\gamma: \gamma_1 = 1,5$. -</p> <p>b . -</p>
<p>27</p> <p>$m\ddot{x} + b\dot{x} + cx = 0$. -</p>	<p>28</p> <p>$0,1\ddot{x} + 10\dot{x} + 100x = 0$. -</p>
<p>29</p> <p>$\ddot{x} + b\dot{x} + 100x = 0$. -</p> <p>b , -</p>	<p>30</p> <p>$m\ddot{x} + 24x = 2 \sin 10t$. -</p> <p>$= 0,1$. -</p>

$m = 5$

<p>1</p>  <p> $c_1 = 1$ / ; $c_2 = 1$ / ; $c_3 = 1$ / . </p>	<p>2</p>  <p> $c_1 = 1$ / ; $c_2 = 1$ / ; $c_3 = 0,5$ / . </p>
<p>3</p>  <p> $c_1 = 1$ / ; $c_2 = 0,5$ / ; $c_3 = 0,5$ / ; $c_4 = 0,75$ / . </p>	<p>4</p>  <p> $c_2 = 0,5$ / ; $c_3 = 1$ / ; $c_4 = 0,25$ / . </p>
<p>5</p>  <p> $c_1 = 0,5$ / ; $c_2 = 0,5$ / ; $c_3 = 0,5$ / . </p>	<p>6</p>  <p> $c_1 = 0,5$ / ; $c_3 = 0,5$ / ; $c_4 = 1$ / ; $c_5 = 1$ / . </p>

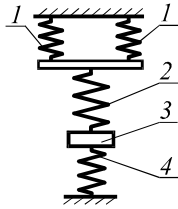
<p>7</p>  <p>$c_1 = 0,5$ / ; $c_2 = 1$ / ; $c_3 = 2$ / .</p>	<p>8</p>  <p>$c_1 = 2$ / ; $c_2 = 2$ / ; $c_3 = 4$ / .</p>
<p>9</p>  <p>$c_1 = 0,5$ / ; $c_2 = 1$ / ; $c_3 = 1$ / .</p>	<p>10</p>  <p>$c_1 = 0,5$ / ; $c_2 = 0,5$ / ; $c_3 = 1$ / .</p>
<p>11</p>  <p>$c_1 = 1$ / ; $c_2 = 1$ / ; $c_4 = 1$ / ; $s = 1$ /</p>	<p>12</p>  <p>$c_1 = 2$ / ; $c_2 = 2$ / ; $c_3 = 2$ / .</p>
<p>13</p>  <p>$c_1 = 1$ / ; $c_2 = 1$ / ; $c_3 = 0,5$ / .</p>	<p>14</p>  <p>$c_1 = 0,5$ / ; $c_2 = 0,5$ / ; $c_3 = 1$ / .</p>

15

$$c_1 = 1 \quad / \quad ;$$

$$c_2 = 2 \quad / \quad ;$$

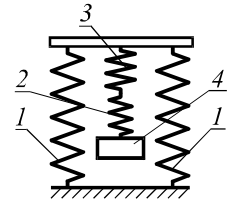
$$c_4 = 1 \quad / \quad .$$

**16**

$$c_1 = 1 \quad / \quad ;$$

$$c_2 = 1 \quad / \quad ;$$

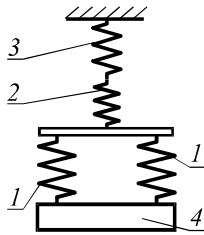
$$c_3 = 1 \quad / \quad .$$

**17**

$$c_1 = 0,5 \quad / \quad ;$$

$$c_2 = 1 \quad / \quad ;$$

$$c_3 = 2 \quad / \quad .$$

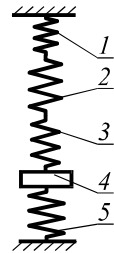
**18**

$$c_1 = 2 \quad / \quad ;$$

$$c_2 = 2 \quad / \quad ;$$

$$c_3 = 1 \quad / \quad ;$$

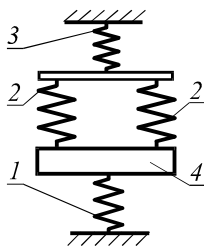
$$c_5 = 0,5 \quad / \quad .$$

**19**

$$c_1 = 1 \quad / \quad ;$$

$$c_2 = 0,5 \quad / \quad ;$$

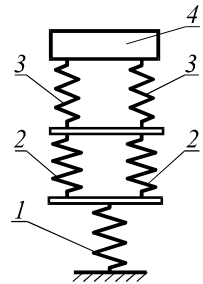
$$c_3 = 1 \quad / \quad .$$

**20**

$$c_1 = 1 \quad / \quad ;$$

$$c_2 = 1 \quad / \quad ;$$

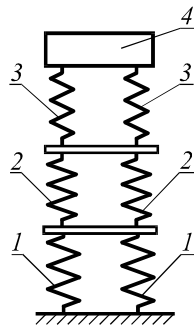
$$c_3 = 1 \quad / \quad .$$

**21**

$$c_1 = 1 \quad / \quad ;$$

$$c_2 = 1 \quad / \quad ;$$

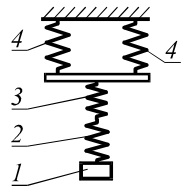
$$c_3 = 0,5 \quad / \quad .$$

**22**

$$c_2 = 2 \quad / \quad ;$$

$$c_3 = 2 \quad / \quad ;$$

$$c_4 = 0,5 \quad / \quad .$$

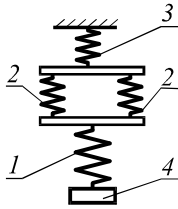


23

$$c_1 = 2 \quad / \quad ;$$

$$c_2 = 1 \quad / \quad ;$$

$$c_3 = 1 \quad / \quad .$$



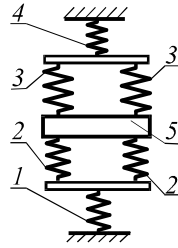
24

$$c_1 = 1 \quad / \quad ;$$

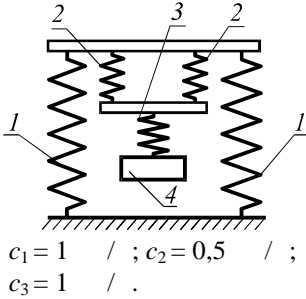
$$c_2 = 0,5 \quad / \quad ;$$

$$c_3 = 0,5 \quad / \quad ;$$

$$c_4 = 1 \quad / \quad .$$



25

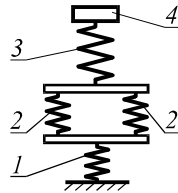


26

$$c_1 = 1 \quad / \quad ;$$

$$c_2 = 0,5 \quad / \quad ;$$

$$c_3 = 0,5 \quad / \quad .$$

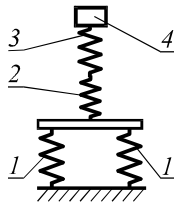


27

$$c_1 = 1 \quad / \quad ;$$

$$c_2 = 2 \quad / \quad ;$$

$$c_3 = 4 \quad / \quad .$$



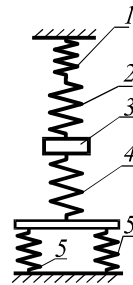
28

$$c_1 = 0,5 \quad / \quad ;$$

$$c_2 = 0,5 \quad / \quad ;$$

$$c_4 = 1 \quad / \quad ;$$

$$c_5 = 0,5 \quad / \quad .$$

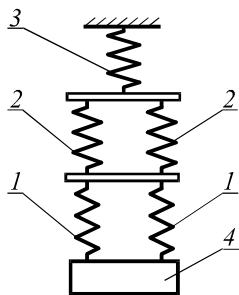


29

$$c_1 = 0,5 \quad / \quad ;$$

$$c_2 = 0,5 \quad / \quad ;$$

$$c_3 = 0,5 \quad / \quad .$$

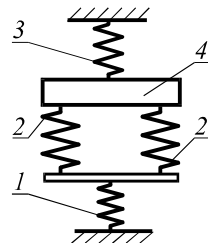


30

$$c_1 = 2 \quad / \quad ;$$

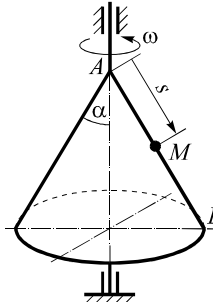
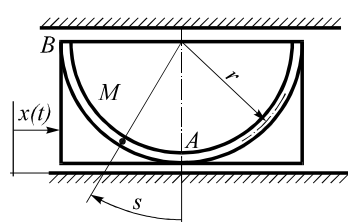
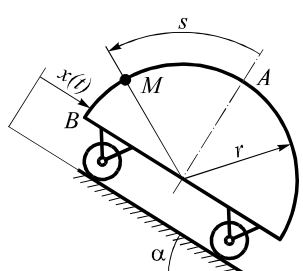
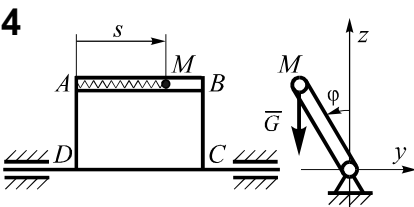
$$c_2 = 1 \quad / \quad ;$$

$$c_3 = 0,5 \quad / \quad .$$



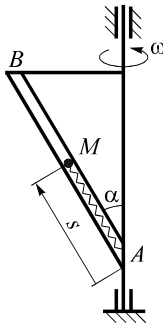
8

$x = x(t)$.
 m .
 s_0 , \dot{s}_0 , 0 .
 4, 5, 12, 18, 21, 28
 c , l_0 , 8, 14,
 29 F .
 1 N .
 2
 $v = f(s)$.

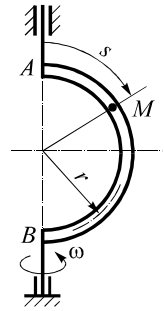
<p>1</p>  <p> $m = 0,3$; $\alpha = 30^\circ$; $s = 2$ / ; $s_0 = 20$; $\dot{s}_0 = 15$ / . </p>	<p>2</p>  <p> $m = 0,25$; $r = 30$; $x(t) = 1,5t^2$; $s_0 = 5$; $\dot{s}_0 = 100$ / . </p>
<p>3</p>  <p> $m = 0,9$; $r = 150$; $\alpha = 30^\circ$; $x(t) = 3t^2$; $s_0 = 50$; $\dot{s}_0 = -300$ / . </p>	<p>4</p>  <p> $m = 3$; $\alpha = 100$ / ; $AD = 30$; $l_0 = 30$; $s = 10$ / ; $\dot{s}_0 = 16$; $s_0 = 35$; $\dot{s}_0 = 20$ / . </p>

5

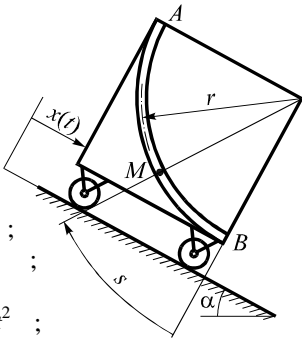
$$\begin{aligned}
 m &= 0,5 \quad ; \\
 c &= 120 \quad / \quad ; \\
 l_0 &= 45 \quad ; \\
 &= 30^\circ ; \\
 &= 6 \quad / \quad ; \\
 s_0 &= 40 \quad ; \\
 \dot{s}_0 &= 120 \quad / \quad .
 \end{aligned}$$

**6**

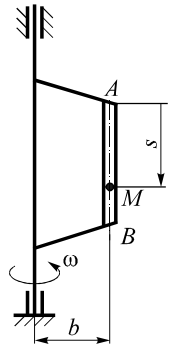
$$\begin{aligned}
 m &= 0,2 \quad ; \\
 r &= 30 \quad ; \\
 &= 8 \quad / \quad ; \\
 s_0 &= 10 \quad ; \\
 \dot{s}_0 &= 25 \quad / \quad .
 \end{aligned}$$

**7**

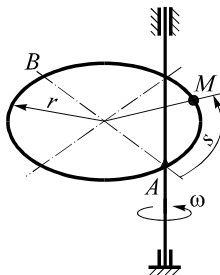
$$\begin{aligned}
 m &= 3 \quad ; \\
 r &= 180 \quad ; \\
 &= 30^\circ ; \\
 x(t) &= 4t^2 \quad ; \\
 s_0 &= 30 \quad ; \\
 \dot{s}_0 &= 180 \quad / \quad .
 \end{aligned}$$

**8**

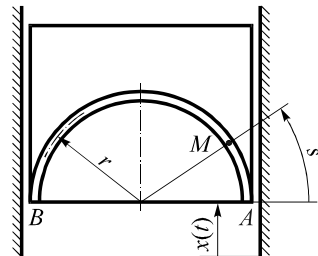
$$\begin{aligned}
 m &= 2,5 \quad ; \\
 b &= 60 \quad ; \\
 &= 10 \quad / \quad ; \\
 F &= fN \quad ; \\
 f &= 0,2 ; \\
 s_0 &= 70 \quad ; \\
 \dot{s}_0 &= -250 \quad / \quad .
 \end{aligned}$$

**9**

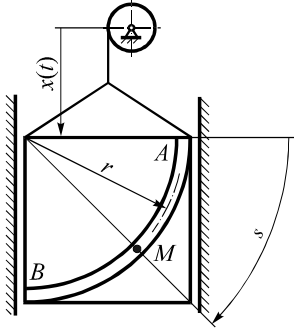
$$\begin{aligned}
 m &= 2 \quad ; \\
 r &= 30 \quad ; \\
 &= 10 \quad / \quad ; \\
 s_0 &= 10 \quad ; \\
 \dot{s}_0 &= 5 \quad / \quad .
 \end{aligned}$$

**10**

$$\begin{aligned}
 m &= 1,2 \quad ; r = 80 \quad ; \\
 x(t) &= 2,5t^2 \quad ; \\
 s_0 &= 20 \quad ; \dot{s}_0 = 100 \quad / \quad .
 \end{aligned}$$



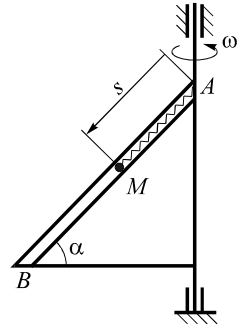
11



$m = 2$; $r = 160$;
 $x(t) = 4t^2$;
 $s_0 = 40$; $\dot{s}_0 = 200$ / .

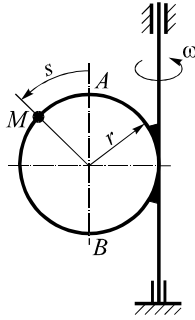
12

$m = 0,1$;
 $c = 80$ / ;
 $l_0 = 40$;
 $\alpha = 45^\circ$;
 $\beta = 5$ / ;
 $s_0 = 50$;
 $\dot{s}_0 = 100$ / .

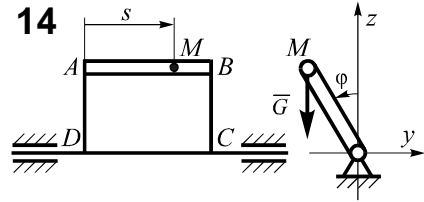


13

$m = 0,1$;
 $r = 20$;
 $\beta = 3$ / ;
 $s_0 = 5$;
 $\dot{s}_0 = 20$ / .



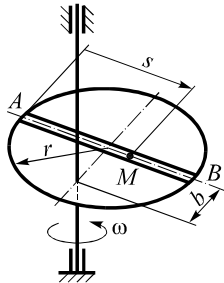
14



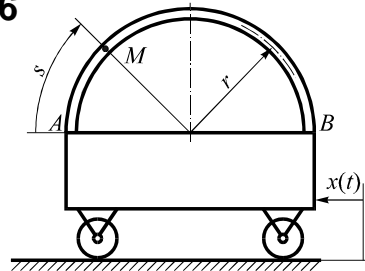
$m = 0,3$; $AD = 40$;
 $F = \beta v^2$; $\beta = 0,5$ $^2 / ^2$;
 $\beta = 6$ / ; $\alpha = 1/6$;
 $s_0 = 10$; $\dot{s}_0 = 25$ / .

15

$m = 0,5$;
 $r = 50$;
 $b = 20$;
 $\beta = 8$ / ;
 $s_0 = 65$;
 $\dot{s}_0 = -120$ / .



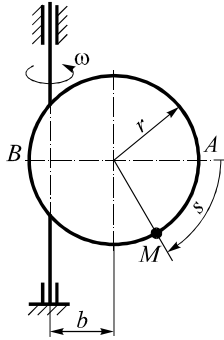
16



$m = 1,5$; $r = 100$;
 $x(t) = 6t^2$;
 $s_0 = 25$; $\dot{s}_0 = 150$ / .

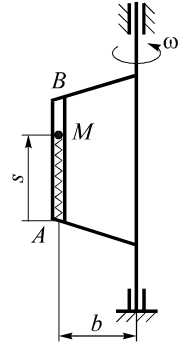
17

$m = 0,6$;
 $r = 45$;
 $b = 30$;
 $= 2$ / ;
 $s_0 = 15$;
 $\dot{s}_0 = 80$ / .

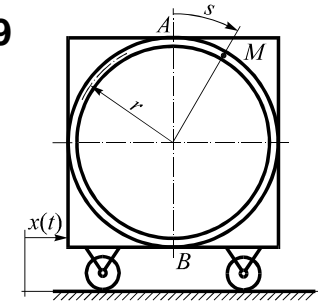


18

$m = 0,2$;
 $c = 150$ / ;
 $l_0 = 60$;
 $b = 60$;
 $= 4$ / ;
 $s_0 = 80$;
 $\dot{s}_0 = -150$ / .



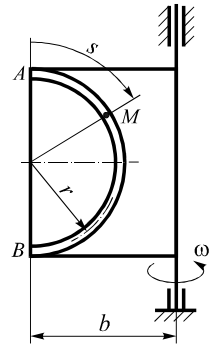
19



$m = 0,5$; $r = 90$;
 $x(t) = 4t - 2t^2$;
 $s_0 = 15$; $\dot{s}_0 = 500$ / .

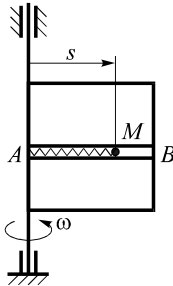
20

$m = 0,7$;
 $r = 30$;
 $b = 30$;
 $= 5$ / ;
 $s_0 = 10$;
 $\dot{s}_0 = 70$ / .



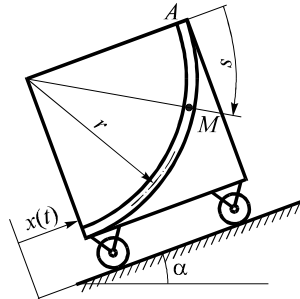
21

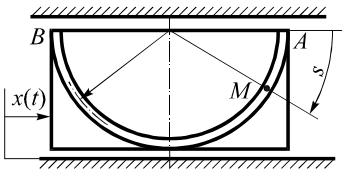
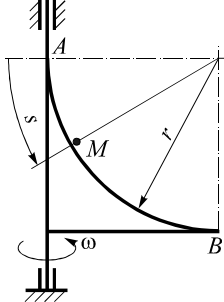
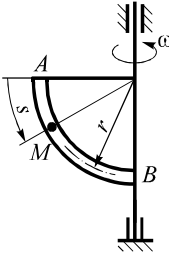
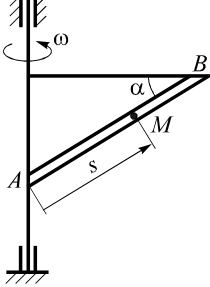
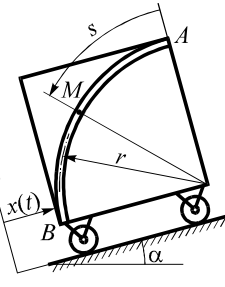
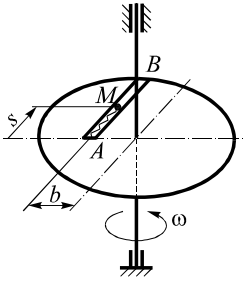
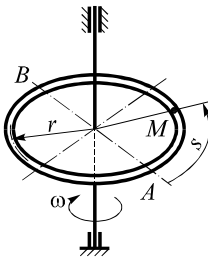
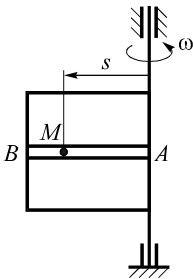
$m = 0,8$;
 $c = 250$ / ;
 $l_0 = 20$;
 $= 10$ / ;
 $s_0 = 15$;
 $\dot{s}_0 = 40$ / .

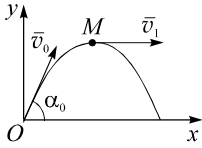
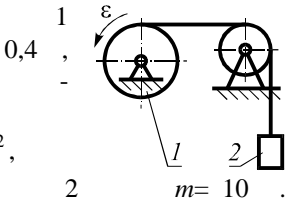


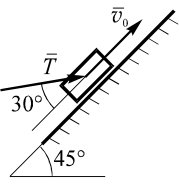
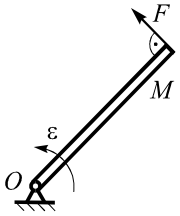
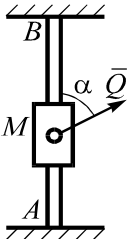
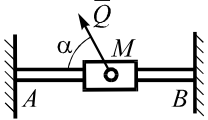
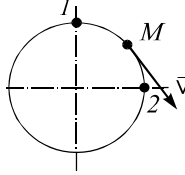
22

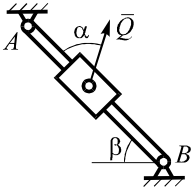
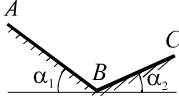
$m = 0,7$; $r = 150$;
 $= 15^\circ$; $x(t) = 5t - 2,5t^2$;
 $s_0 = 25$; $\dot{s}_0 = 600$ / .

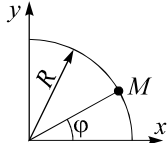


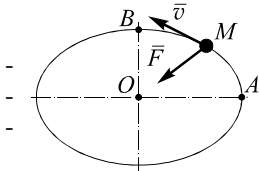
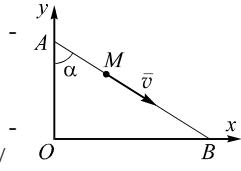
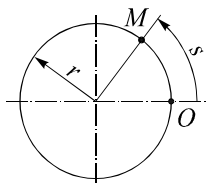
<p>23</p>  <p> $m = 0,2$; $r = 24$; $x(t) = 3t - 2t^2$; $s_0 = 4$; $\dot{s}_0 = 150$ / . </p>	<p>24</p>  <p> $m = 1,2$; $r = 60$; $= 4$ / ; $s_0 = 10$; $\dot{s}_0 = -50$ / . </p>
<p>25</p>  <p> $m = 0,25$; $r = 45$; $= 4$ / ; $s_0 = 15$; $\dot{s}_0 = 60$ / . </p>	<p>26</p>  <p> $m = 0,4$; $= 30^\circ$; $= 3$ / ; $s_0 = 60$; $\dot{s}_0 = 100$ / . </p>
<p>27</p>  <p> $m = 1,6$; $r = 120$; $= 30^\circ$; $x(t) = 4t - 1,5t^2$; $s_0 = 30$; $\dot{s}_0 = 200$ / . </p>	<p>28</p>  <p> $m = 0,3$; $b = 20$; $c = 140$ / ; $l_0 = 20$; $= 5$ / ; $s_0 = 30$; $\dot{s}_0 = 160$ / . </p>
<p>29</p>  <p> $m = 0,4$; $r = 50$; $= 3$ / ; $F = v$; $= 25$ · / ; $s_0 = 60$; $\dot{s}_0 = 150$ / . </p>	<p>30</p>  <p> $m = 2$; $= 3$ / ; $s_0 = 50$; $\dot{s}_0 = 100$ / . </p>

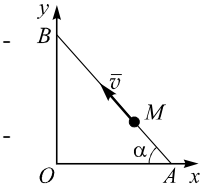
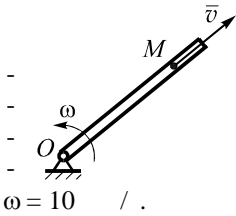
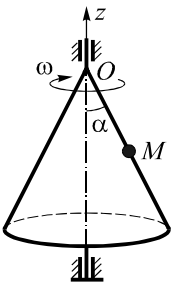
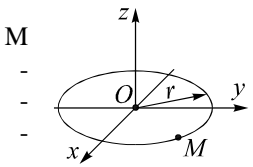
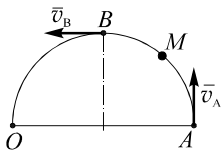
<p>1</p> <p>5</p> <p>$v_0 = 500$ / ,</p> <p>$\alpha = 60^\circ$</p>  <p>$v_1 = 200$ / .</p>	<p>2</p> <p>20 , -</p> <p>F , -</p> <p>2 / . -</p> <p>F ? -</p> <p>F -</p>
<p>3</p> <p>$m = 25000$ 50 -</p> <p>0,5144 /). (1 -</p>	<p>4</p> <p>α_0 , -</p> <p>v_0 , -</p> <p>? -</p>
<p>5</p> <p>30° , -</p> <p>2 / . -</p> <p>3 , -</p> <p>0,5. -</p>	<p>6</p> <p>m -</p> <p>v . -</p>
<p>7</p> <p>m ,</p> <p>$E = E_0 \sin \omega t$, -</p> <p>$\left(0 \leq t \leq \frac{\pi}{\omega} \right)$. , -</p> <p>$F =$. -</p>	<p>8</p> <p>0,4 , -</p> <p>$\varepsilon = 2$ / ² , -</p> <p>2 $m = 10$. -</p> <p>$t_1 = 1$ c -</p> <p>$t_2 = 3$. -</p> 

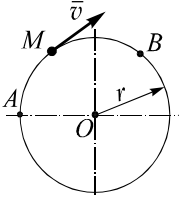
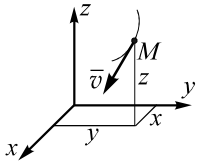
<p>9</p> <p>2</p> <p>$F_x = 6 \cos 2t$;</p> <p>$F_y = 6 \sin 2t$; $F_z = -6 \sin 2t$ (</p> <p>v_2</p> <p>$t_2 = \pi$, $t_1 = \frac{\pi}{2}$</p> <p>2 /</p> <p>x, y, z</p> <p>30°, 60°, 90°</p>	<p>10</p>  <p>45° ,</p> <p>10 / .</p> <p>T,</p> <p>0,2.</p>
<p>11</p> <p>$\varepsilon = \pi$ /</p>  <p>$F = t$. $l = 0,5$.</p> <p>$t_1 = 0$</p> <p>$t_2 = 1$.</p>	<p>12</p> <p>20</p>  <p>$Q = 700$,</p> <p>$\alpha = 60^\circ$</p> <p>2 / ,</p> <p>0,2.</p>
<p>13</p> <p>15</p>  <p>$Q = 500$,</p> <p>$\alpha = 60^\circ$</p> <p>3 / ,</p> <p>$f = 0,1$.</p>	<p>14</p> <p>1</p>  <p>$v = 4$ / .</p> <p>2.</p>

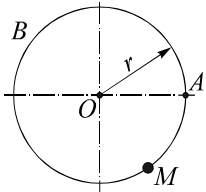
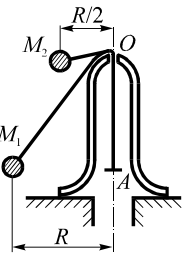
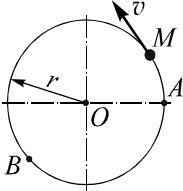
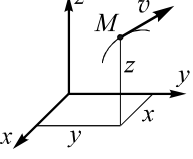
<p>15</p> <p>$m\vec{v} = 5t^2\vec{i} + 2t\vec{j}$.</p> <p>$t_1 = 0,5$.</p>	<p>16</p> <p>20 /</p> <p>6</p> <p>?</p>
<p>17</p> <p>10</p> <p>$\beta = 45^\circ$</p> <p>$Q = 500$</p> <p>$\alpha = 60^\circ$</p> <p>$f = 0,2$.</p> <p>t</p> <p>1 /</p> 	<p>18</p>  <p>α_1,</p> <p>α_2</p> <p>t_1,</p> <p>t_2</p>
<p>19</p> <p>1</p> <p>$= 5t + 2$ / 2.</p> <p>$t_1 = 2$ $t_2 = 4$.</p>	<p>20</p> <p>4</p> <p>$\vec{F} = 3t^2\vec{i} + 4t\vec{j}$.</p> <p>$t_1 = 1$ c $t_2 = 2$.</p>
<p>21</p> <p>m</p> <p>v_0</p> <p>α_0</p>	<p>22</p> <p>m</p> <p>xOy</p> <p>$x = 5 \sin 2t$;</p> <p>$y = 4 \cos 2t$.</p> <p>xOy.</p>

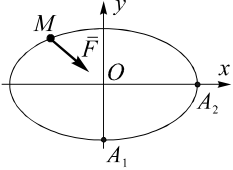
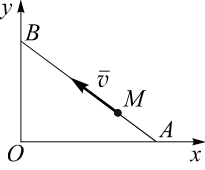
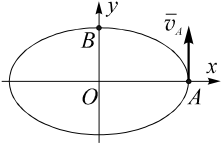
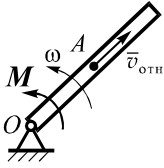
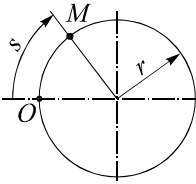
<p>23</p> <p>1</p> <p>$F = 5 \cos \pi t$,</p> <p>$\alpha = 30^\circ$</p> <p>$v_0 = 1,5$ / .</p> <p>$t = 0,5$.</p>	<p>24</p> <p>400</p> <p>0,03</p> <p>15 / .</p> <p>0,0005</p> <p>50</p> <p>12 / .</p>
<p>25</p> <p>8500</p> <p>0,01</p> <p>170</p> <p>0,6 / ?</p>	<p>26</p> <p>$m = 1$,</p> <p>$v_0 = 5$ / ,</p> <p>$F = 2e^{-2t}$,</p> <p>$\alpha = 30^\circ$</p> <p>$t = 1$.</p>
<p>27</p> <p>$v_0 = 5$ / ,</p> <p>$\alpha = 30^\circ$</p> <p>$v_1 = 10$ / ,</p> <p>$f = 0,1$.</p>	<p>28</p> <p>0,2</p> <p>20 / .</p> <p>10 / ?</p>
<p>29</p> <p>20</p> <p>Q, 45°.</p> <p>5</p> <p>2 / 4 / .</p> <p>Q, 0,1.</p>	<p>30</p> <p>0,5</p> <p>$R = 2$.</p> <p>$t_1 = 0$ $t_2 = /12$,</p> <p>$\varphi = \pi \sin 2t$.</p> 

<p>1</p>  <p>$F.$</p> <p>$v.$</p> <p>$= ; = b.$</p>	<p>2</p>  <p>$m=1$</p> <p>$v=4 /$</p> <p>$O,$</p> <p>$= 1 .$</p>
<p>3</p> <p>$m=0,5$</p> <p>$y = 5t^2.$</p> <p>$[5; 20]$</p> <p>$t=2 c.$</p>	<p>4</p> <p>$m=1$</p> <p>$x=y=1 .$</p> <p>$v_x=v_y=1 / .$</p>
<p>5</p> <p>$m=5$</p> <p>$v_x=2 / , \quad v_y=3 / ,$</p> <p>$v_z=4 / .$</p> <p>$xyz$</p> <p>$\vec{r} = 2\vec{i} - \vec{j} + 3\vec{k} .$</p>	<p>6</p>  <p>$m=0,5$</p> <p>$r=0,5$</p> <p>$s=0,25t^2.$</p> <p>$t=1 .$</p>

<p>7</p> <p>$m = 0,5$</p> <p>$v = 2$ /</p> <p>$\alpha = 30^\circ$</p>  <p>$B = 1$</p> <p>O,</p>	<p>8</p> <p>$\bar{v} = 4t\bar{i} + 2t\bar{j} + 3\bar{k}$</p> <p>$t = 1$</p> <p>$x = 1$</p> <p>$y = 2$, $z = 3$</p>
<p>9</p>  <p>$\omega = 10$ /</p> <p>$v = 2$ /</p> <p>$m = 1$</p> <p>$= 0,5$</p>	<p>10</p> <p>$\alpha = 30^\circ$</p> <p>z</p>  <p>$\omega = 4$ /</p> <p>1</p> <p>z</p> <p>$= 1$</p>
<p>11</p>  <p>$r = 1$</p> <p>$s = \pi \cos \frac{\pi t}{3}$</p> <p>$z$ $t = 2$</p>	<p>12</p>  <p>$r = 0,5$</p> <p>$v = 5$ /</p>

<p>13</p> <p>$m = 1$ $y = t^3; z = t^4.$</p> <p>$x = 2t;$</p> <p>$t = 2$.</p>	<p>14</p> <p>$m = 1$ $x = 4t; y = t^2.$</p> <p>$t = 2$.</p>
<p>15</p> <p>$m = 2$</p> <p>$r = 0,5$</p> <p>$v_A = 2$ / ,</p> <p>O 4 . $2/$.</p> <p>2 .</p> 	<p>16</p> <p>$\omega.$</p> <p>v</p> <p>A $m,$</p> <p>$O.$,</p>
<p>17</p> <p>$m = 1$,</p> <p>$0,5$,</p> <p>50 .</p>	<p>18</p> <p>$m = 0,5$</p> <p>$x = 1$, $y = z = 2$,</p> <p>$v_x = 2$ / , $v_y = -1$ / , $v_z = -1$ / .</p> <p>$x.$</p> 

<p>19</p> <p>$m = 1$</p> <p>$x = 4t^3$</p> <p>x</p> <p>[12; 10]</p> <p>$t = 1$</p>	<p>20</p> <p>$m = 2$</p> <p>$x = 2t^2, y = 3t$</p> <p>z</p> <p>$t = 3$</p>
<p>21</p> <p>$m = 1$</p>  <p>$r = 0,5$</p> <p>$v = 1$</p> <p>$t = 3$</p>	<p>22</p>  <p>R</p> <p>120</p> <p>$R/2$</p> <p>?</p>
<p>23</p> <p>$m = 1$</p>  <p>$v = 2$</p> <p>$= 0,5$</p> <p>$t = 2$</p> <p>5</p> <p>r</p>	<p>24</p> <p>$m = 0,5$</p>  <p>$x = y = z = 1$</p> <p>$v_x = 1, v_y = 2, v_z = 1$</p> <p>$z$</p>

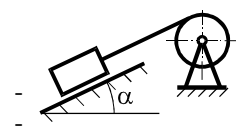
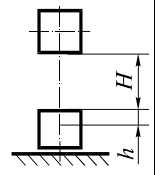
<p>25</p>  <p>F.</p> <p>$v_1 = 30$ / ,</p> <p>$v_2 = 20$ / . $OA_1 = 60$.</p> <p>2.</p>	<p>26</p>  <p>$m = 0,3$</p> <p>$v = 1$ /</p> <p>O,</p> <p>$= 0,8$, $= 0,6$.</p>
<p>27</p> <p>$m = 2$,</p> <p>5 / ,</p> <p>1 .</p> <p>,</p> <p>$1/3$</p> <p>?</p>	<p>28</p>  <p>F .</p> <p>5 ,</p> <p>$v = 20$ / .</p> <p>$v = 25$ / .</p>
<p>29</p>  <p>ω.</p> <p>$OA = kt^2$ A</p> <p>m.</p> <p>$t = \frac{\pi}{\omega}$.</p>	<p>30</p>  <p>$m = 2$</p> <p>$s = 2t^2$.</p> <p>$t = 1$.</p> <p>8 . $2/$</p>

<p>1 $m = 100$</p> <p>$H = 1000$</p> <p>$F = 980$</p>	<p>2 $m = 1$</p> <p>$\alpha = 30^\circ$</p> <p>$F = 10$</p> <p>$f = 0,1$</p> <p>$s = 2$</p>
<p>3 $m = 600$</p> <p>$s = 6$ c $i = 20\%$,</p> <p>$F = \beta s^2$, $= 0,008 / ^2$.</p> <p>$v_0 = 18 /$</p>	<p>4 $m = 10^6$</p> <p>$R = 800$</p> <p>$a_n = 0,8 / ^2$.</p> <p>$F = 0,4$</p>
<p>5 $m = 1$</p> <p>$v_0 = 1 /$</p> <p>$= 100 /$</p> <p>$F = cx$,</p>	<p>6 $m = 100$</p> <p>$F = 0,25$</p> <p>$\alpha = 120^\circ$</p> <p>$f = 0,2$.</p> <p>$s = 10$</p>

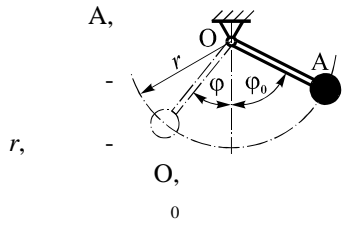
<p>7 $m = 2000$ $R = 1$</p> <p>$a_n = 1 / ^2$ $F = 1$</p>	<p>8 $m = 10^4$, $H = 100$</p> <p>F -</p> <p>$v = 0,2 /$.</p>
<p>9 $m = 10^5$</p> <p>$R = 1200$ - $a_n = 0,6 / ^2$ - $F = \beta s$, $\beta = 72 /$. - ,</p>	<p>10 $m = 1200$</p> <p>$s = 4$ c $i = 10 \%$, - $F = s$, $= 60 /$. - $v_0 = 54 /$. -</p>
<p>11 $m = 5$ - - $\alpha = 45^\circ$, - $F = ks$ ($k = 70 /$) - .</p> <p>$f = 0,15$.</p> <p>$s = 1$.</p>	<p>12 $m = 120$ $v_0 = 5,4 /$ - . $R = ^2$, - - ; $= 30 / ^2$. - .</p>
<p>13 $m = 3$ - - $F = a \cos(\pi s/2)$</p> <p>($a = 10$), . $f = 0,2$. - , $s = 1$.</p>	<p>14 $m = 100$, $H = 1$, - - $F = \dot{h}^2$, $h -$ $= 5 \cdot 10^{-6} / ^2$. - .</p>

<p>15 $m = 700$ -</p> <p>, $F = 70$.</p> <p>.</p>	<p>16 $m = 900$ -</p> <p>$s = 400$.</p> <p>-</p> <p>, $F = 90$.</p>
<p>17 $m = 60$ -</p> <p>$v_0 = 7,2$ / -</p> <p>. $R = x,$ -</p> <p>- , $c = 10$ / . -</p> <p>, $f = 0,2$, -</p>	<p>18 $m = 10$ -</p> <p>-</p> <p>, $\alpha = 60^\circ$ -</p> <p>$F = s^2 (= 2 / ^2)$ -</p> <p>.</p> <p>$f = 0,1$. -</p> <p>$s = 4$.</p>
<p>19 $m = 50$ -</p> <p>-</p> <p>$F = as$ -</p> <p>($a = 70$ /), -</p> <p>$\alpha = 135^\circ$. -</p> <p>, $s = 5$. -</p>	<p>20 $m = 20$ -</p> <p>-</p> <p>$F = as^2$ -</p> <p>($a = 0,27$ / 2), -</p> <p>$\alpha = 150^\circ$. -</p> <p>, $s = 20$. -</p>
<p>21 $m = 10^6$ -</p> <p>$F = \alpha s (= \text{const}).$ -</p> <p>$s = 5$, -</p> <p>$v_0 = 18$ / .</p>	<p>22 $m = 400$ -</p> <p>$s = 3$, -</p> <p>$v_0 = 54$ / . -</p> <p>$F = s^2 (= \text{const}).$ $F,$ -</p>

<p>23</p> <p>$m = 80$</p> <p>$v_0 = 3,6 /$</p> <p>$R = 3,$</p> <p>$a_n = 0,4 / ^2.$</p> <p>$\gamma = 0,48 / ^2.$</p> <p>$= 40 / ^3.$</p>	<p>24</p> <p>$m = 400$</p> <p>$R = 2$</p> <p>$F = \gamma s^2,$</p>
<p>25</p> <p>$m = 800$</p> <p>$s_1 = 1$</p> <p>$F = a + bs^2,$</p> <p>$a = 60, b = 0,3 / ^2.$</p>	<p>26</p> <p>$m = 2400$</p> <p>$s = 2$</p> <p>$v_0 = 36 / .$</p> <p>$F,$</p>
<p>27</p> <p>$s = 800$</p> <p>$0,02$</p>	<p>28</p> <p>$m = 1200$</p> <p>$s_1 = 1200$</p> <p>$F = \beta s,$</p> <p>$\beta = 240 / .$</p>
<p>29</p> <p>$m = 10$</p> <p>$F = ae^{bs} (a = 9, b = 0,1^{-1}).$</p> <p>$f = 0,15.$</p> <p>$s = 10$</p>	<p>30</p> <p>$m = 50,$</p> <p>$H = 400,$</p> <p>$F = \alpha h,$</p> <p>$h -$</p> <p>$\alpha = 0,01 / .$</p>

<p>1</p> <p>$m = 100$,</p> <p>$F = 60$,</p> <p>$h = 0,8$.</p>	<p>2</p> <p>$D = 15$ $m = 3$ -</p> <p>-</p> <p>-</p> <p>$l = 20$,</p> <p>-</p> <p>$k = 100$ / 2.</p> <p>$S, F = kS,$</p>
<p>3</p> <p>$m = 10$,</p> <p>$v_0 = 54$ / ,</p> <p>$F = 11,25$?</p> <p>?</p>	<p>4</p> <p>$m = 2$</p> <p>$H = 50$</p> <p>$F = 8$.</p>
<p>5</p> <p>m</p>  <p>α.</p> <p>$-f$.</p> <p>s</p> <p>v_0 v_1.</p>	<p>6</p> <p>$h = 3$.</p>  <p>$F = 100$</p> <p>H</p> <p>$m = 250$.</p>

7



$r,$

$O,$

0

8

$v_0 = 540$ / $m = 2,5$

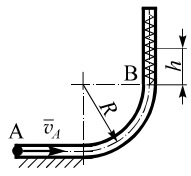
$= ks; k = 1,6$ / $s -$

9

$m = 0,4$,

$v = 4$ / ,

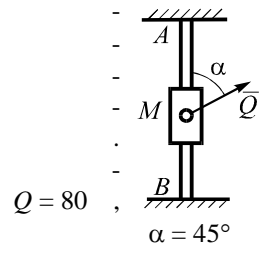
$c = 500$ / h



$R = 0,5$

10

$m = 20$



$Q = 80$,

$\alpha = 45^\circ$

$f = 0,3$

11

m

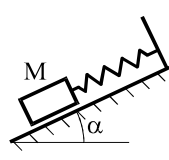
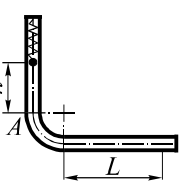
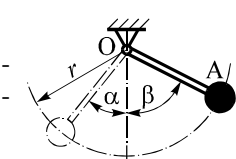
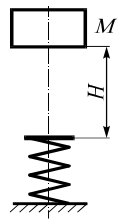
H

$F. m = 300$,

12

$h = 2$.

$F = 200$.

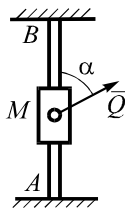
<p>13</p> <p>v_0</p> <p>m</p> <p>T</p> <p>$v_1 = 0,25 \text{ / ?}$</p>	<p>14</p> <p>v_0</p> <p>$m = 16 \text{ . } h = 10$</p> <p>T</p> <p>$v_1 = 0,25 \text{ / ?}$</p>
<p>15</p> <p>m</p> <p>α</p> <p>c</p> <p>l</p> <p>f</p> <p>$f < \text{tg}\alpha$</p> 	<p>16</p> <p>h</p> <p>L</p> <p>f</p> 
<p>17</p> <p>A,</p> <p>r</p> <p>O,</p> <p>α</p> <p>β</p> <p>v_0</p> 	<p>18</p> <p>$m = 0,5$</p> <p>$H = 1,2$</p> <p>$= 196 \text{ / . } h$</p> 

19

$m = 20$

$Q = 700$

$\alpha = 60^\circ$



s

$f = 0,2$

20

$\alpha = 0,1$

$f = 0,08$

$s = 400$

21

$m = 0,8$

$v_0 = 3$

$F = 400$

$L = 5$

22

m

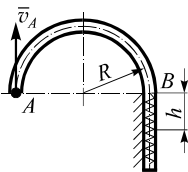
α

f.

23

$m = 0,6$

$v = 3$



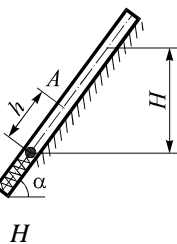
$c = 1$

24

c,

h,

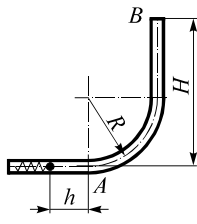
m.




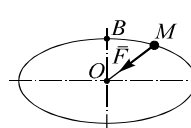
H

α

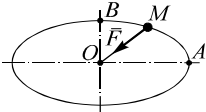
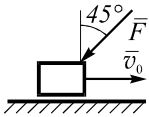
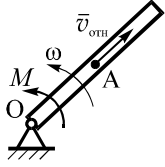
f.

<p>25</p> <p>$H = 30$</p>	<p>26</p> <p>$m,$</p> <p>$= k(s_1 - s),$</p> <p>$s -$</p> <p>$h.$</p>
<p>27</p> <p>$m = 30$</p> <p>$v_0 = 9 /$</p> <p>$c = 3 \cdot 10^7 / ^2.$</p> <p>Δl</p> <p>$R = c\Delta l^2.$</p>	<p>28</p> <p>?</p> <p>$h = 1 ,$</p> <p>$F = 45 ,$</p> <p>$m = 110 .$</p>
<p>29</p> <p>$c,$</p> <p>$h,$</p> <p>$m.$</p> <p>H</p> 	<p>30</p> <p>S</p> <p>m</p> <p>$l,$</p> <p>$p = \alpha V,$</p> <p>$\alpha -$</p> <p>$V -$</p> <p>$V_0.$</p>

<p>1</p> <p>$m = 1$, $v = 72$ / , $F = a + bs$, $a = 8$, $b = 0,2$ / .</p>	<p>2</p> <p>m $\alpha = 30^\circ$ $f = 0,1$. $t = 2$</p>
<p>3</p> <p>$t = 10$ $m = 360$ - $v = 15$ / $F = a + bt$, $= 10^5$. b , $R = 1500$</p>	<p>4</p> <p>$t = 20$ $m = 120$ - $v = 36$ / $F = kt$. k , $R = 2$</p>
<p>5</p> <p>m α , f . v .</p>	<p>6</p> <p>m $R = \alpha v$. $v_0 = 0$. t</p>
<p>7</p> <p>$R = \alpha v$. $v_0 = 0$. m ,</p>	<p>8</p> <p>$m = 10^3$ - $v = 0,2$ / . $= 10^7$ / .</p>

<p>9 m</p> <p>v_0, ,</p> <p>$F = kv$, $k -$</p> <p>,</p> <p>.</p>	<p>10</p> <p>m</p> <p>, t</p> <p>α.</p> <p>v_1.</p> <p>f.</p> <p>.</p>
<p>11</p> <p>m</p>  <p>$T = kt$, $k -$</p> <p>α.</p> <p>f.</p> <p>.</p>	<p>12 m</p> <p>$R = kSv$, $k -$</p> <p>; $S -$</p> <p>S,</p> <p>v_{\max}.</p>
<p>13</p>  <p>F.</p> <p>,</p> <p>,</p> <p>$=$; $= b$.</p>	<p>14 $m = 10^6$</p> <p>$i = 15 \text{ ‰}$</p> <p>$(k = 10 / ^2)$,</p> <p>$s_1 = 400$.</p> <p>$F_1 = ks^2$</p> <p>.</p>
<p>15</p> <p>m</p> <p>,</p> <p>α.</p> <p>K</p> <p>v_0.</p> <p>f.</p> <p>.</p>	<p>16</p> <p>m</p> <p>1,2</p> <p>$R = kv$, $k -$</p> <p>, $v -$</p> <p>?</p>

<p>17</p> <p>$m_1 = 1$, $m_2 = 200$.</p> <p>$z = 0,05 \sin \pi t$.</p>	<p>18</p> <p>$m = 4$,</p> <p>$v = 54$ /</p> <p>$F = 80t$.</p>
<p>19</p> <p>m ,</p> <p>$R = v$, $v_0=0$.</p> <p>s</p>	<p>20</p> <p>m</p> <p>v_0.</p> <p>$R = v$.</p>
<p>21</p> <p>5 40</p> <p>3,5</p> <p>$Q = 250$</p> <p>0,5 .</p> <p>1</p> <p>$v_0 = 2$ /c, $f = 0,06$.</p>	<p>22</p> <p>m</p> <p>v_0</p> <p>α.</p> <p>$F = be^{-kt}$,</p> <p>b k -</p>
<p>23</p> <p>$m = 2$</p> <p>$H = 20$</p> <p>$F = kz$, z</p> <p>h.</p>	<p>24</p> <p>$H = 10$</p> <p>$v_0 = 0,5$ / .</p>

<p>25 $m = 6000$,</p> <p>$F = 36$,</p> <p>$s = 1000$</p> <p>$i = 10\%$</p> <p>$t = 30$</p>	<p>26 -</p> <p>m</p> <p>v_0</p> <p>α.</p> <p>f.</p> <p>$v = f(t)$,</p>
<p>27</p> <p>$m = 2$</p>  <p>F.</p> <p>$v_A = 5$ / .</p> <p>F</p> <p>$= 40$;</p> <p>$= 16$.</p>	<p>28 -</p> <p>$m = 2$,</p>  <p>$v_0 = 5$ / ,</p> <p>$F = 4t$,</p> <p>$f = 0,2$.</p>
<p>29 $m = 0,5$</p> <p>$v = 5$ / .</p> <p>$F = a + bx$, x -</p> <p>$a = 10$, $b = 2$ / .</p> <p>l</p> <p>$L = 0,1$?</p>	<p>30</p>  <p>ω</p> <p>M</p> <p>$\vec{v}_{\text{отн}}$</p> <p>A</p> <p>v</p> <p>m.</p> <p>t</p>

- 1 , 1991. – 638 .
- 2 « », 1998. – 736 .
- 3 « », 1998. – 448 .
- 4 , 1995. – 416 .

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360 26.07.99 .