

# Crack the Code

# Direct Proportion

<b>A</b>	<p><math>y</math> is directly proportional to <math>x</math>. When <math>x = 12, y = 300</math>. The formula linking <math>y</math> and <math>x</math> is</p> $y = \boxed{\phantom{00}} x$ <p style="text-align: center;">25</p>	<b>B</b>	<p><math>a</math> is directly proportional to <math>b^2</math>. When <math>b = 5, a = 450</math>. The formula linking <math>a</math> and <math>b</math> is</p> $a = \boxed{\phantom{00}} b^2$ <p style="text-align: center;">18</p>
<b>C</b>	<p><math>s</math> is directly proportional to <math>t</math>. When <math>t = 10, s = \frac{1}{2}</math>. Find the value of <math>s</math> when <math>t = 80</math>.</p> <p style="text-align: center;">4</p>	<b>D</b>	<p><math>y</math> is directly proportional to <math>x^3</math>. When <math>x = 4, y = 1280</math>. The formula linking <math>y</math> and <math>x</math> is</p> $y = \boxed{\phantom{00}} x^3$ <p style="text-align: center;">20</p>
<b>E</b>	<p><math>a</math> is directly proportional to <math>\sqrt{b}</math>. When <math>b = 49, a = 28</math>. The formula linking <math>a</math> and <math>b</math> is</p> $a = \boxed{\phantom{00}} \sqrt{b}$ <p style="text-align: center;">4</p>	<b>F</b>	<p><math>c</math> is directly proportional to the square of <math>d</math>. When <math>d = 3, c = 45</math>. Find the value of <math>c</math> when <math>d = 6</math>.</p> <p style="text-align: center;">180</p>
<b>G</b>	<p><math>f</math> is directly proportional to the cube of <math>g</math>. When <math>g = 10, f = 2500</math>. Find the value of <math>f</math> when <math>g = 4</math>.</p> <p style="text-align: center;">160</p>	<b>H</b>	<p><math>p</math> is directly proportional to <math>\sqrt[3]{t}</math>. When <math>t = 512, p = 120</math>. The formula linking <math>p</math> and <math>t</math> is</p> $p = \boxed{\phantom{00}} \sqrt[3]{t}$ <p style="text-align: center;">15</p>
<b>I</b>	<p>The mass <math>M</math> in grams of a mouse is directly proportional to its length <math>L</math> in cm. A mouse with length 20 cm has a mass 30 g. Find the length of a mouse with a mass of 48 g.</p> <p style="text-align: center;">32 cm</p>	<b>J</b>	<p><math>y</math> is directly proportional to the square root of <math>x</math>. When <math>x = 9, y = 42</math>. Find the value of <math>y</math> when <math>x = 225</math>.</p> <p style="text-align: center;">210</p>
<b>K</b>	<p><math>w</math> is directly proportional to the cube root of <math>v</math>. When <math>v = 729, w = 22.5</math>. Find the value of <math>v</math> when <math>w = 10</math>.</p> <p style="text-align: center;">64</p>	<b>L</b>	<p><math>a</math> is directly proportional to <math>b^3</math>. <math>b</math> is directly proportional to the square root of <math>c</math>. When <math>c = 16, a = 448</math>. Find the value of <math>c</math> when <math>a = 1512</math></p> <p style="text-align: center;">36</p>

To get the three-digit code, add all your answers together. **768**