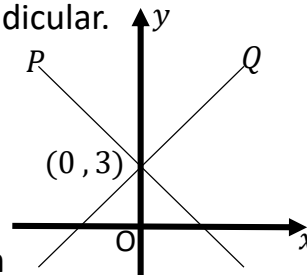




Timester Challenge

Perpendicular Lines



<p>Circle equation of the line perpendicular to $y = 3x - 2$</p> <p>$y = 5x + \frac{1}{2}$ $3y + x = 6$ $y - 3x = 8$</p> <p>$y = \frac{1}{3}x + 4$ $2y = 3x + 8$ Bronze ★</p>	<p>Write down the equation of the line perpendicular to $y = \frac{1}{2}x + 5$, which passes through the point $(0, -3)$.</p> <p style="text-align: right;">Silver ★</p>	<p>A straight line L passes through the points $(0, -1)$ and $(-2, 3)$. A straight line M is perpendicular to line L and passes through the same origin. Find the equation of line M.</p> <p style="text-align: right;">Gold ★</p>
<p>Complete the following sums.</p> <p>$\frac{1}{2} \times \square = -1$</p> <p>$\square \times 3 = -1$</p> <p>$-4 \times \square = -1$</p> <p>$\square \times -\frac{1}{5} = -1$ Bronze ★</p>	<p>Write down the equation of the line perpendicular to $2x - y = 4$, which passes through the point $(0, 2)$.</p> <p style="text-align: right;">Silver ★</p>	
	<p>Lines P and Q are perpendicular. Both Lines pass through the point $(0, 3)$. The gradient of line P is $-\frac{2}{3}$. Write down the equation of line Q.</p>  <p style="text-align: right;">Silver ★</p>	<p>The straight line D has equation $y = 4x - 5$. The straight line B is perpendicular to line D and passes through the point $(8, -3)$. Find the equation of the line B.</p> <p style="text-align: right;">Gold ★</p>



Timester Challenge

Perpendicular Lines

Answers



<p>Circle equation of the line perpendicular to</p> $y = 3x - 2$ <p> $y = 5x + \frac{1}{2}$ $3y + x = 6$ $y - 3x = 8$ $y = \frac{1}{3}x + 4$ $2y = 3x + 8$ </p> <p style="text-align: right;">Bronze ★</p>	<p>Write down the equation of the line perpendicular to $y = \frac{1}{2}x + 5$, which passes through the point $(0, -3)$.</p> <p style="text-align: center;">$y = -2x - 3$ Silver ★</p>	<p>A straight line L passes through the points $(0, -1)$ and $(-2, 3)$. A straight line M is perpendicular to line L and passes through the same origin. Find the equation of line M.</p> <p><i>Gradient of L = $\frac{4}{-2} = -2$</i> <i>Equation of L is $y = -2x - 1$</i></p>
<p>Complete the following sums.</p> $\frac{1}{2} \times -2 = -1$ $-\frac{1}{3} \times 3 = -1$ $-4 \times \frac{1}{4} = -1$ $5 \times -\frac{1}{5} = -1$ <p style="text-align: right;">Bronze ★</p>	<p>Write down the equation of the line perpendicular to $2x - y = 4$, which passes through the point $(0, 2)$.</p> <p style="text-align: center;">$y = -2x + 4$</p> <p><i>So the perpendicular line is $y = \frac{1}{2}x + 2$</i> Silver ★</p>	<p><i>Gradient of M = $\frac{1}{2}$</i> <i>Equation of M is $y = \frac{1}{2}x - 1$</i></p> <p style="text-align: right;">Gold ★</p>
	<p>Lines P and Q are perpendicular. Both Lines pass through the point $(0, 3)$. The gradient of line P is $-\frac{2}{3}$.</p> <div style="text-align: center;"> </div> <p>Write down the equation of line Q.</p> <p style="text-align: center;">$-\frac{2}{3} \times \frac{3}{2} = -\frac{6}{6} = -1$</p> <p><i>So the equation of Q is $y = \frac{3}{2}x + 3$</i> Silver ★</p>	<p>The straight line D has equation $y = 4x - 5$. The straight line B is perpendicular to line D and passes through the point $(8, -3)$. Find the equation of the line B.</p> <p><i>$4 \times -\frac{1}{4} = -1$ So the equation of B is $y = -\frac{1}{4}x + C$</i> <i>$(-3) = -\frac{1}{4}(8) + c$</i> <i>$-3 = -2 + c$</i> <i>$c = -3 + 2 = -1$</i> <i>So the equation of line B is $y = -\frac{1}{4}x - 1$</i> Gold ★</p>