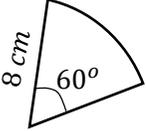
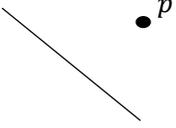
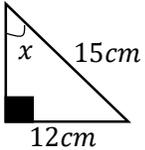
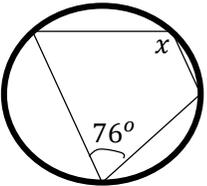
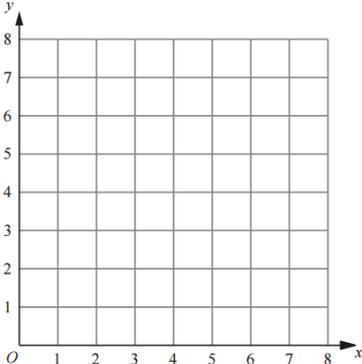
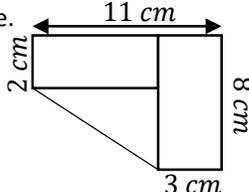


# Final Countdown Higher Revision Mat 3

<p>1) Joe and Jamaal share a bag of sweets between them in the ratio of 2:5. Jamaal is sneaky and gets 18 more sweets than Joe. How many sweets does Jamaal get?</p>	<p>2) Calculate the area of the sector.</p> 	<p>3) Solve <math>x^2 - 5x - 14 = 0</math></p>	<p>4) Construct a perpendicular line to the point p.</p> 	<p>5) Shannon is surveying students on their mode of transport to school. Design a suitable <b>data collection sheet</b> for Shannon to use.</p>								
<p>6) Calculate the size of the angle x.</p> 	<p>7) Expand and simplify <math>(\sqrt{7} + 6)(\sqrt{7} - 3)</math></p>	<p>8) y is proportional to <math>x^2</math> when <math>y = 20</math> and <math>x = 4</math>. Calculate the value of y when <math>x = 6</math>.</p>	<p>9) The length of a field is 216m, to the nearest metre. The width of the field is 180m, to the nearest 10 metres.</p> <p>Calculate is the upper bound for the area of the field.</p>	<p>10) Express <math>x^2 + 8x + 12</math> in the form <math>(x + p)^2 + q</math>.</p>								
<p>11) Ahmed buys x amount of energy drinks. Lucas buys double the amount of energy drinks to Ahmed. Danny buys 1 less energy drink than Lucas. Together they buy 34 Energy drinks. How many do they each buy?</p>	<p>12) Chloe makes a fruit salad with 1kg of oranges and 3kg of apples, which cost her £4. Another day she made a fruit salad with 3kg of oranges and 2kg of apples which cost her £5. How much does 1kg of each type of fruit cost?</p>	<p>13) Calculate the size of angle x. Give a reason for your answer.</p> 	<p>14) Shade in the region (R) which satisfies the following inequalities.</p> $x \leq 5 \qquad y \leq 6 \qquad y + x \geq 8$ 									
<p>15) Simplify <math>\frac{45x^7y^5}{5x^3y}</math></p>	<p>16) Calculate the perimeter of the shape.</p> 	<p>17) In a stratified sample of 80 students, how many children should be selected from each year group?</p> <table border="1" data-bbox="859 1021 1212 1120"> <tbody> <tr> <td>Year</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>Total</td> <td>127</td> <td>132</td> <td>121</td> </tr> </tbody> </table>			Year	4	5	6	Total	127	132	121
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Total	127	132	121									

## Challenge

Make x the subject of the formula.

$$y(z - x) = zx + y$$

