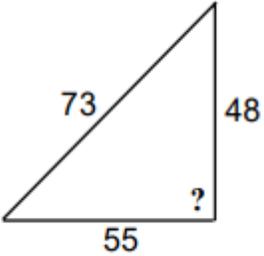
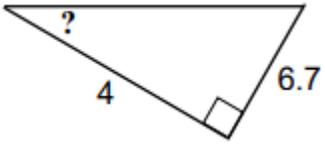
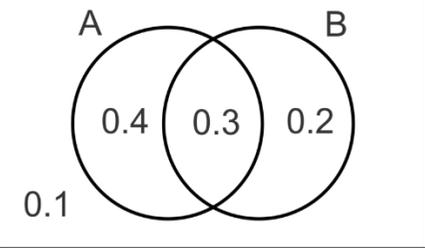
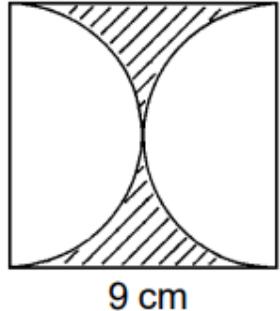
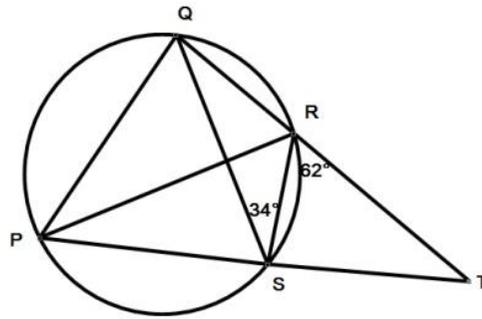


## Calculator Higher + GCSE Revision

<p>What's the exterior angle of a regular decagon?</p>	<p>Use your calculator to work out <math>6.12 \times 10^7 \div 4.8 \times 10^2</math>. Answer in standard form.</p>	<p>If <math>a : b = 8 : 7</math> and <math>a : c = 10 : 7</math> write the ratio <math>b : c</math> in simplest form.</p>	<p>Are the following numbers prime? a) 51  b) 127</p>
<p>Find two consecutive numbers which, when multiplied together, make 462.</p>	<p>I buy a car for £15,670. The car depreciates at a rate of 23% per annum.  a) How much is the car worth in 5 years?</p>	<p>Is this triangle right angled?</p> 	<p>I bought a scarf in the sale. It was marked as 30% off. It cost me £10.50. What was the original price?</p>
<p>Find the midpoint of <math>(-3, 5)</math> and <math>(7, 10)</math>.</p>	<p>b) From when I bought the car, how many years until it is worth less than £1000?</p>	<p>What's longer, 1500 <i>metres</i> or 1 <i>mile</i>?  Use the conversion <math>8 \text{ km} = 5 \text{ miles}</math>.</p>	<p>When <math>a = -3</math>, find the value of <math>5a^2 - 2a</math>.</p>

<p>In a sample, 6 earthworms measure between 40mm and 60mm. 10 earthworms measure between 60mm and 120mm. Estimate the mean length.</p>	<p>Find the marked angle.</p> 	<p>I have five red socks and six green socks in a drawer. I pick two socks at random. What's the probability both socks are the same colour?</p>	 <p>a) Find <math>P(A \cup B)</math>. b) Find <math>P(A \cap B')</math>.</p>
<p>An equilateral triangle with side length 24cm has the same perimeter as a square. What's the area of the square?</p>	<p>The ratio of the volume of Cuboid A to the volume of Cuboid B is 125 : 64. If Cuboid A has surface area <math>x</math>, what's the surface area of Cuboid B in terms of <math>x</math>?</p>	<p>Find the coordinates of the turning point of the graph <math>y = 10x - x^2</math>.</p>	<p>The picture shows a square and two semicircles. Find the shaded area.</p>  <p>9 cm</p>

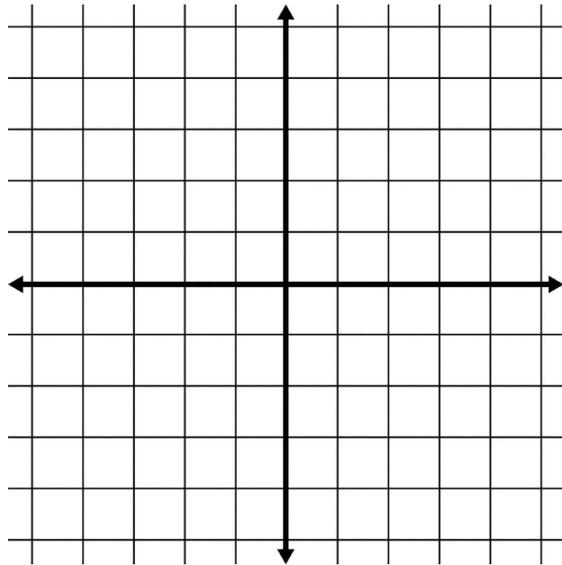
Work out angle RPS.



If  $f(x) = x^2 + x$  and  $g(x) = 2x + 1$ , solve  $fg(x) = 0$ .

An isosceles triangle has two equal sides of length 7cm. Its two equal angles measure  $15.3^\circ$ . What is the length of its other side?

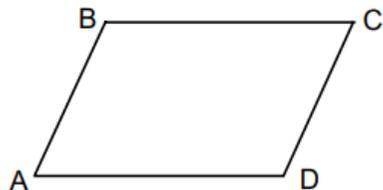
Show, by shading on the grid below, the region defined by  $y \leq x + 2$ . Label your region **R**.



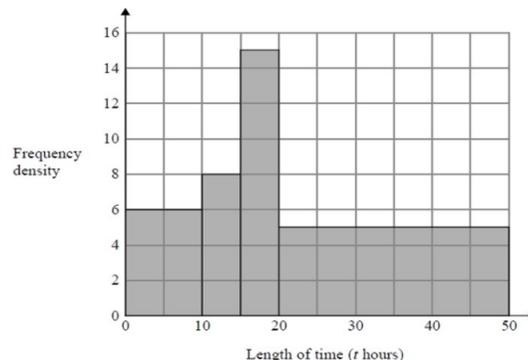
The volume of a cylinder is  $250\text{cm}^3$  and its curved surface area is  $150\text{cm}^2$ . Calculate its height.

Prove that the sum of three consecutive even numbers is a multiple of 6.

$AB = 4\text{cm}$ ,  $BC = 7\text{cm}$  and  $\angle BAD = 55^\circ$ . Find the area of parallelogram ABCD.



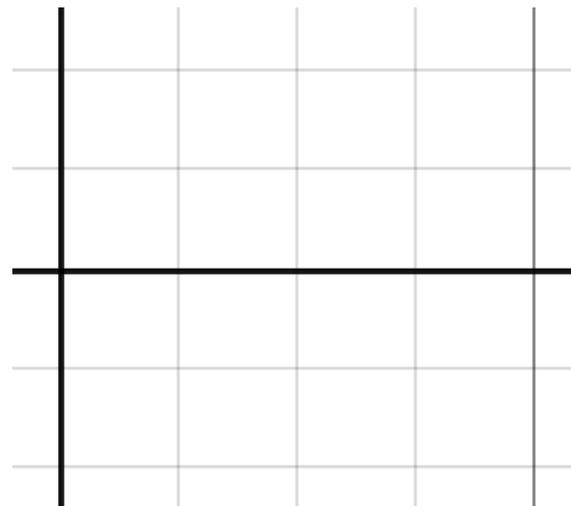
The histogram shows the amount of time a group of people spent watching TV last week. Estimate the percentage of people who watched TV for more than 40 hours.



Solve  $x^2 - 5x - 6 > 0$ .

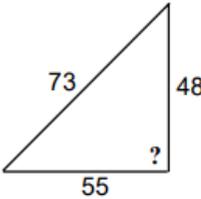
Use the iteration formula  $x_{n+1} = \sqrt{x_n + 3}$  with  $x_1 = 2$  to find the value of  $x$  correct to the three decimal places.

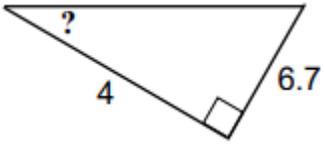
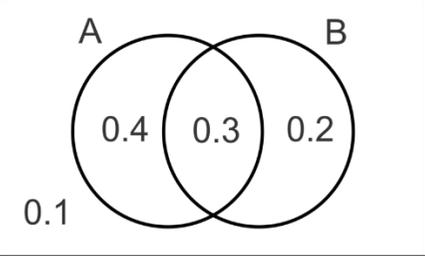
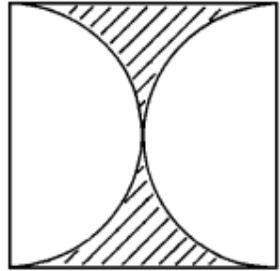
a) Plot the graph of  $y = \cos x$  for  $0 \leq x \leq 360$ .



b) On the same axes plot the graph of  $y = \cos x - 1$ .

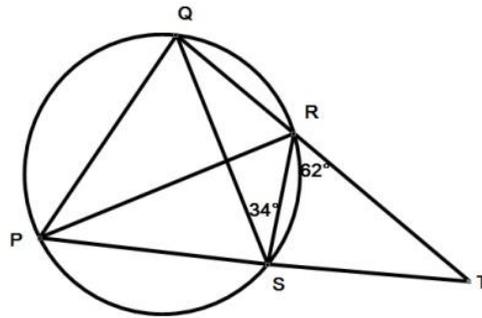
## Calculator Higher + GCSE Revision – ANSWERS

<p>What's the exterior angle of a regular decagon?</p> <p><math>36^\circ</math></p>	<p>Use your calculator to work out <math>6.12 \times 10^7 \div 4.8 \times 10^2</math>. Answer in standard form.</p> <p><math>1.275 \times 10^5</math></p>	<p>If <math>a : b = 8 : 7</math> and <math>a : c = 10 : 7</math> write the ratio <math>b : c</math> in simplest form.</p> <p><math>5 : 4</math></p>	<p>Are the following numbers prime?</p> <p><b>COULD USE FACT BUTTON ON CALCULATOR</b></p> <p>a) 51 <b>No</b></p> <p>b) 127 <b>Yes</b></p>
<p>Find two consecutive numbers which, when multiplied together, make 462.</p> <p><math>21 \times 22</math></p>	<p>I buy a car for £15,670. The car depreciates at a rate of 23% per annum.</p> <p>a) How much is the car worth in 5 years?</p> <p><b>£4241.53</b></p>	<p>Is this triangle right angled?</p>  <p><b>Yes</b></p>	<p>I bought a scarf in the sale. It was marked as 30% off. It cost me £10.50. What was the original price?</p> <p><b>£15</b></p>
<p>Find the midpoint of <math>(-3, 5)</math> and <math>(7, 10)</math>.</p> <p><math>(2, 7.5)</math></p>	<p>b) How many years until the car is worth less than £1000?</p> <p><b>11 years</b></p>	<p>What's longer, 1500 metres or 1 mile?</p> <p><b>1 mile</b></p> <p><b>(1500m = 0.9375 miles)</b></p> <p>Use the conversion <math>8 \text{ km} = 5 \text{ miles}</math>.</p>	<p>When <math>a = -3</math>, find the value of <math>5a^2 - 2a</math>.</p> <p><b>51</b></p>

<p>In a sample, 6 earthworms measure between 40mm and 60mm. 10 earthworms measure between 60mm and 120mm. Estimate the mean length.</p>	<p>Find the marked angle.</p>  <p style="text-align: center;"><b>59.2°</b></p>	<p>I have five red socks and six green socks in a drawer. I pick two socks at random. What's the probability both socks are the same colour?</p>	 <p>a) Find <math>P(A \cup B)</math>. <b>0.9</b> b) Find <math>P(A \cap B')</math>. <b>0.4</b></p>
<p style="text-align: center;"><b>75mm</b></p>	<p>The ratio of the volume of Cuboid A to the volume of Cuboid B is 125 : 64. If Cuboid A has surface area <math>x</math>, what's the surface area of Cuboid B in terms of <math>x</math>?</p>	<p style="text-align: center;"><b><math>\frac{5}{11}</math></b></p>	<p>The picture shows a square and two semicircles. Find the shaded area.</p>  <p style="text-align: center;"><b>17.4cm<sup>2</sup></b></p>
<p>An equilateral triangle with side length 24cm has the same perimeter as a square. What's the area of the square?</p>	<p style="text-align: center;"><b><math>\frac{16}{25}x</math></b></p>	<p>Find the coordinates of the turning point of the graph <math>y = 10x - x^2</math>.</p> <p style="text-align: center;"><b>(5, 25)</b></p>	

Work out angle RPS.

$28^\circ$



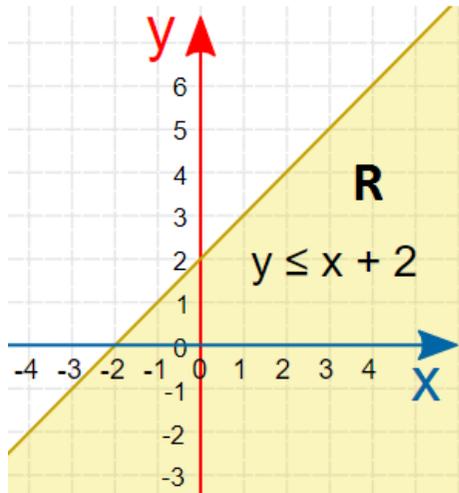
If  $f(x) = x^2 + x$  and  $g(x) = 2x + 1$ , solve  $fg(x) = 0$ .

$$x = -1 \text{ or } -\frac{1}{2}$$

An isosceles triangle has two equal sides of length 7cm. Its two equal angles measure  $15.3^\circ$ . What is the length of its other side?

$13.5\text{cm}$

Show, by shading on the grid below, the region defined by  $y \leq x + 2$ . Label your region **R**.



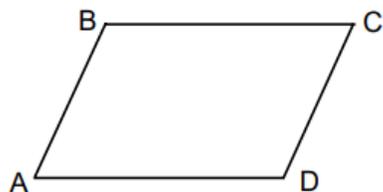
The volume of a cylinder is  $250\text{cm}^3$  and its curved surface area is  $150\text{cm}^2$ . Calculate its height.

$7.16\text{cm}$

Prove that the sum of three consecutive even numbers is a multiple of 6.

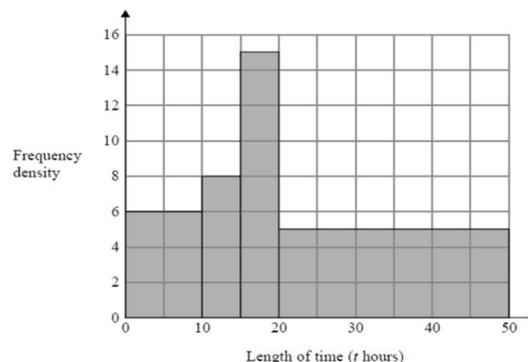
$$\begin{aligned} \text{eg } 2n + 2n + 2 + 2n + 4 \\ &= 6n + 6 \\ &= 6(n + 1) \text{ which is a multiple of 6.} \end{aligned}$$

$AB = 4\text{cm}$ ,  $BC = 7\text{cm}$  and  $\angle BAD = 55^\circ$ . Find the area of parallelogram ABCD.



$22.9\text{cm}^2$

The histogram shows the amount of time a group of people spent watching TV last week. Estimate the percentage of people who watched TV for more than 40 hours.  $\frac{50}{325} = 15\%$



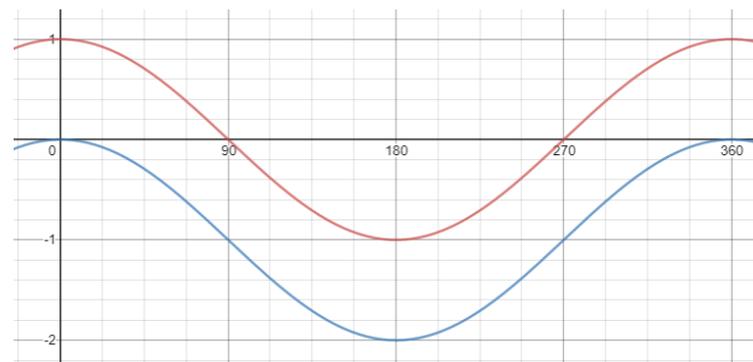
Solve  $x^2 - 5x - 6 > 0$ .

$x < -1$  or  $x > 6$

Use the iteration formula  $x_{n+1} = \sqrt{x_n + 3}$  with  $x_1 = 2$  to find the value of  $x$  correct to the three decimal places.

$2.303$

a) Plot the graph of  $y = \cos x$  for  $0 \leq x \leq 360$ .



b) On the same axes plot the graph of  $y = \cos x - 1$ .