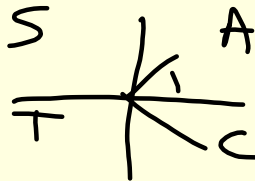


Starter

1) Solve $4\cos(x) - 2 = 0$ $\cos(x) = \frac{1}{2}$ S 

$x = 60^\circ$ $x = 300^\circ$

2) A straight line has equation $2y = -3x + 4$. State the gradient and y intercept of the line.

$$y = -\frac{3x}{2} + 2 \quad m = -\frac{3}{2} \quad c = 2 \quad (0, 2)$$

3) What are the roots of the equation $y = x^2 + 2x - 15$

$$y = (x + 5)(x - 3)$$

$(-5, 0) \quad (3, 0)$

Revision Lesson

Practice Paper Questions

- 1) A straight line with gradient -3 passes through the point $(-2, 5)$.

Determine the equation of this straight line.

$$y - y_1 = m(x - x_1)$$

$$y - 5 = -3(x + 2)$$

$$y - 5 = -3x - 6$$

$$y = -3x - 1$$

3)

Solve the inequation

$$5k - 3 < 2k + 9.$$

$$5k - 3 < 2k + 9$$

$$5k < 2k + 12$$

$$3k < 12$$

$$k < 4$$

5) Solve the following system of equations algebraically:

$$\begin{array}{r}
 3a + 5b = 39 \\
 a - b = \underline{\underline{-3}} \quad \times 3 \\
 \hline
 3a + 5b = 39 \\
 3a - 3b = -9 \quad - \\
 \hline
 8b = 48 \\
 b = 6
 \end{array}
 \qquad
 \begin{array}{r}
 a - b = -3 \\
 a - 6 = -3 \\
 a = 3
 \end{array}$$

Here is a formula

$$S = \frac{2x}{3} + 6$$

Change the subject of the formula to x .

$$3S = 2x + 18$$

$$3S - 18 = 2x$$

$$\frac{3S - 18}{2} = x$$

$$\frac{3S}{2} - 9 = x.$$

8)

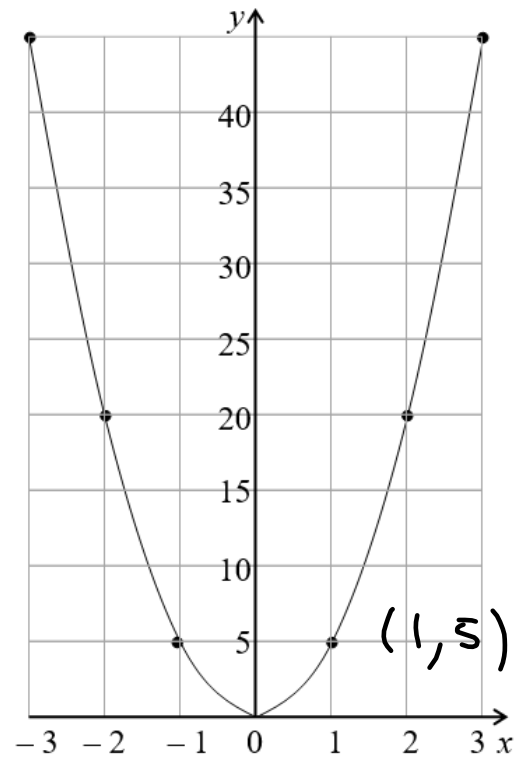
The diagram shows the parabola with equation $y = kx^2$.

What is the value of k ?

$$y = kx^2$$

$$5 = k \times 1^2$$

$$\underline{5 = k}$$



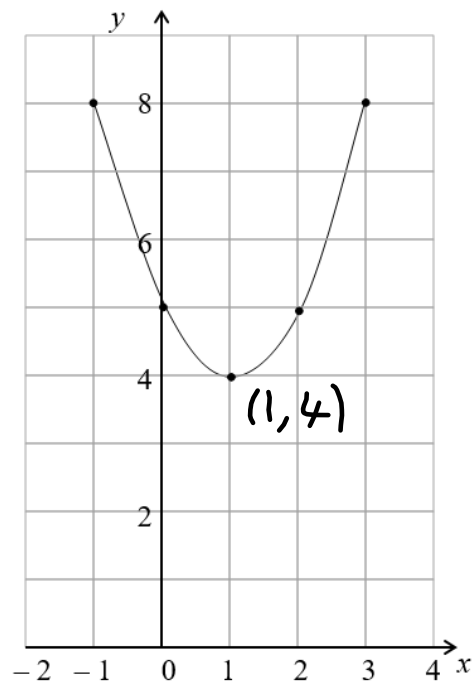
10)

The equation of the quadratic function whose graph is shown below is of the form $y = (x + a)^2 + b$, where a and b are integers.

Write down the values of a and b .

$$y = (x + a)^2 + b$$

$$y = (x - 1)^2 + 4$$



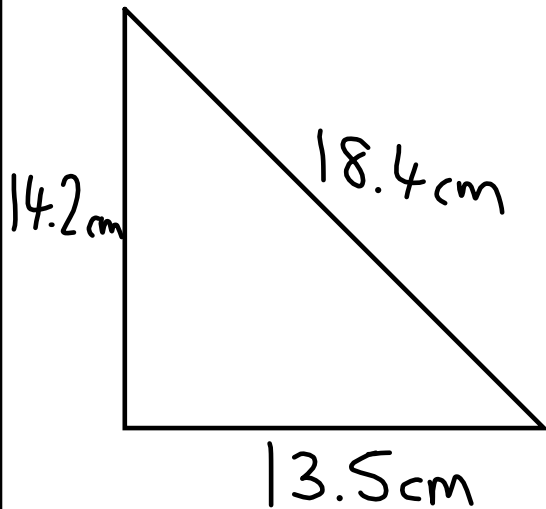
12) Write down the period of the graph of the equation $y = \sin \frac{1}{2} x^\circ$.

$$y = \sin(bx) \quad \frac{360}{b}$$

$$\frac{360}{(\frac{1}{2})} = 720^\circ$$

14) Write down the period of the graph of the equation $y = \sin 5x^\circ$.

$$\frac{360}{5} = 72^\circ$$



$$a^2 + b^2 = c^2$$

$$14.2^2 + 13.5^2 = 18.4^2$$

$$201 + 182 = 338$$

$$383 \neq 338$$

~~≠~~

Starter

1) A curve passes through the point (2, 5) and has equation

$y = kx^2$. Find the value of k.

2) Find the roots of $y = x^2 + 8x - 12$

Revision

Today we are revising...

How to sketch quadratics.

I will know if I have been successful if...

I can use the RATS Y approach!

I use a ruler.

I clearly state important coordinates on my graph.

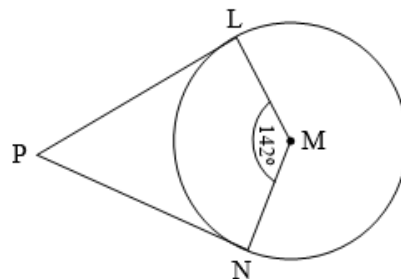


Circle Theorems

The diagram shows kite PNML and a circle with centre M.

PL is the tangent to the circle at L and PN is the tangent to the circle at N.

Given that angle LMN is 142° , calculate angle LPN.

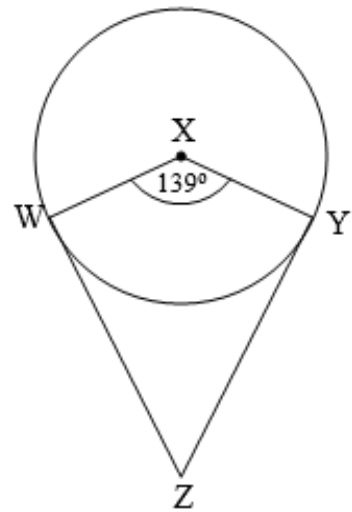


National 5 WB 22nd Jan Relationships Revision

The diagram shows kite $WXYZ$ and a circle with centre X .

WZ is the tangent to the circle at W and YZ is the tangent to the circle at Y .

Given that angle WXY is 139° , calculate angle WZY .



Sketching Graphs

Sketch the graph of...

$$y = (x - 4)(x - 8)$$

State clearly where the graph crosses the axis and the turning point.

Sketching Graphs

Sketch the graph of...

$$y = x^2 + 10x + 21$$

State clearly where the graph crosses the axis and the turning point.

Sketching Graphs

Sketch the graph of...

a) $y = x^2 - 1$

b) $y = x^2 + 2x - 15$

c) $y = x^2 + 7x - 6$

State clearly where the graph crosses the axis and the turning point.

Starter

1) Solve the equation $y = (x - 9)(x + 5)$

$$(x - 9)(x + 5) = 0 \quad x = 9 \quad x = -5$$

2) Calculate the length of the hypotenuse. Leave your answer in its simplest form.

$$a^2 = b^2 + c^2 \quad a^2 = 244$$

$$a^2 = 10^2 + 12^2 \quad a = \sqrt{244}$$

3) Solve $6k + 9 < 8k + 3$

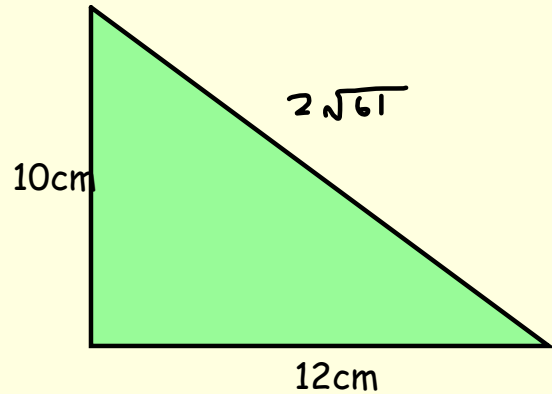
$$\begin{array}{r} -6k \quad -6k \\ 9 < 8k + 3 \end{array}$$

$$\begin{array}{r} 9 < 8k + 3 \\ -3 \quad -3 \end{array}$$

$$6 < 8k$$

$$\underline{3 < k}$$

$$k > 3$$



Final Revision Lesson

Use this lesson as a chance to ask me any last minute questions.

Complete either a past paper

or

carry on working from the revision sheet for the unit test.