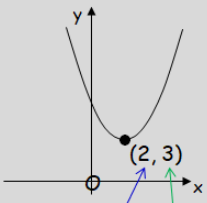


Outcome 1 - Recognise and determine the equation of a quadratic function from its graph

Bronze example

Examples...

Write down the equation of the graph, which has the form



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

****Completed the square form****

Change the sign! Leave it alone!

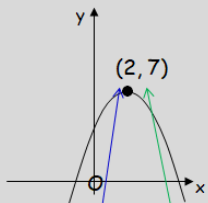
$$y = (x - 2)^2 + 3$$

(NB - when multiplied out this equation is $y = x^2 - 4x + 7$)

Silver example

Examples...

Write down the equation of the graph, which has the form



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

****Completed the square form****

Change the sign! Leave it alone!

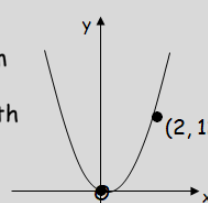
$$y = 7 - (x - 2)^2$$

(NB - when multiplied out this equation is $y = 3 + 4x - x^2$)

Gold example

Examples...

The diagram shows the parabola with equation



$$y = kx^2$$

What is the value of k? ****Sub the Point in****

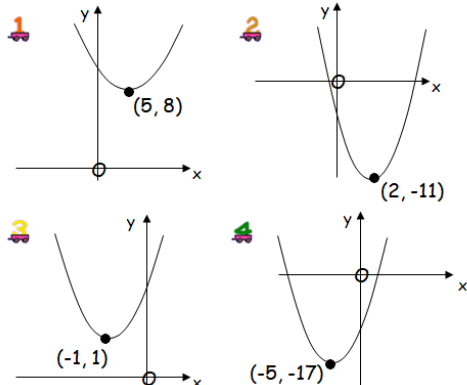
$$12 = k \times 2^2$$

$$4k = 12 \quad k = 3$$

$$y = 3x^2$$

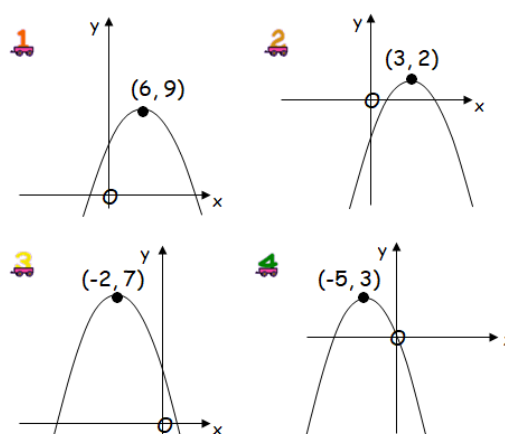
Bronze Questions

Write down the equation of the graph, which has the form $y = (x + a)^2 + b$.



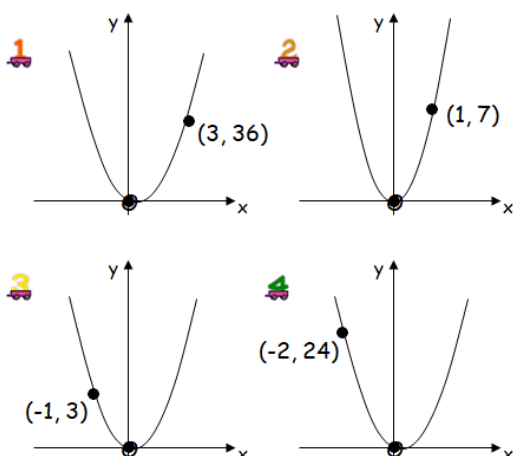
Silver Questions

Write down the equation of the graph, which has the form $y = b - (x + a)^2$.



Gold Questions

For the parabolas with equations $y = kx^2$ determine the value of k.



Bronze Answers

1. $y = (x - 5)^2 + 8$

2. $y = (x - 2)^2 - 11$

3. $y = (x + 1)^2 + 1$

4. $y = (x + 5)^2 - 17$

Silver Answers

1. $y = 9 - (x - 6)^2$

2. $y = 2 - (x - 3)^2$

3. $y = 7 - (x + 2)^2$

4. $y = 3 - (x + 5)^2$

Gold Answers

1. $y = 4x^2$

2. $y = 7x^2$

3. $y = 3x^2$

4. $y = 6x^2$