

Teaching notes

There are two ways this activity could be used. In both activities, students will need scrap paper to work on, or they could show all workings neatly in their books.

Option one

Print all 13 question cards and photocopy onto A3 paper. Cut out each card, shuffle and put up on walls around the room or playground. Arrange students into small groups, giving each group an answer sheet, and send them to a random starting card. Students read the question and work out the solution, recording their answer on their sheet. They then hunt round the room for the card that contains that answer, which will give them a new question, and repeat until they end up back at their starting card.

Option two

Print the questions and cut out of A4 paper (you could get the pupils to cut them out as they are not given in the correct order). Students can work individually or in pairs to match up the questions with the correct solutions, creating a loop of dominoes.

Answers

The order of cards should match up with these solutions:

3 → -6 → (0,3) → (1/2,0) and (-3/2,0) → -4 → (0,-8) and (1,-9) → 9.5 → (1/2,0) and (-3,0) → -2 → 40 → -1/2 → -42 → 4 and -1

4 and -1

A function is defined by

$$f(x) = \frac{24}{x}, \text{ where } x \neq 0$$

What is the value of x when

$$f(x) = 8?$$

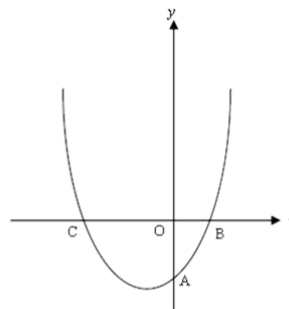


$$-\frac{1}{2}$$

A function is defined by
 $h(t) = 15t - 3t^2$

Evaluate $h(-2)$

$$-6$$



The diagram shows the graph
 $y = 4x^2 + 4x - 3$
 Find the coordinates of point
 A, where the line crosses the
 y-axis.

$$-42$$

Two functions are given
 below.

$$f(x) = x^2 + 2x - 1$$

$$g(x) = 5x + 3$$

Find the values for x of for
 which

$$f(x) = g(x)$$

$$3$$

Given that $f(x) = x^2 + 5x$

Evaluate $f(-3)$

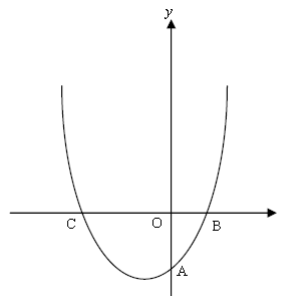


40

$$f(x) = 7 - 4x$$

Given that $f(x) = 9$, find t

(0, -3)

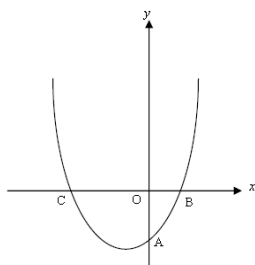


The diagram shows the graph

$$y = 4x^2 + 4x - 3$$

Find the coordinates of points B and C, where the line crosses the x-axis.

$(\frac{1}{2}, 0)$ and $(-\frac{3}{2}, 0)$

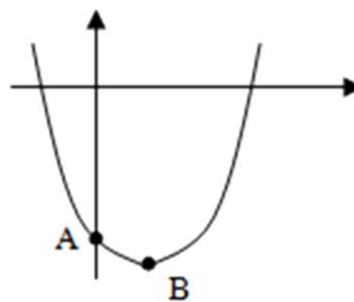


The diagram shows the graph

$$y = 4x^2 + 4x - 3$$

Calculate the minimum value of y .

-4

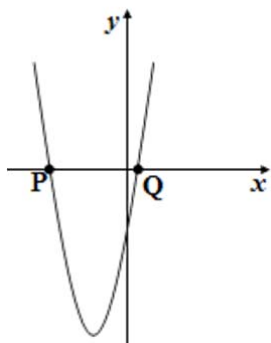


$$f(x) = (x + 2)(x - 4).$$

Find the coordinates of A and B.



9.5



This graph has equation

$$y = 2x^2 + 5x - 3$$

Find the coordinates of the points P and Q, where the line crosses the x-axis.

(0, -8) and (1, -9)

A function of f is given as:

$$f(x) = ax + b$$

Given that $f(1) = 2$ and

$$f(3) = 7, \text{ find } f(4).$$

(-3, 0) and (1/2, 0)

A function f is defined by

$$f(x) = a - 2x.$$

Given that $f(1) = 2$, find $f(3)$

-2

Given that $f(m) = m^2 - 3m$,

Evaluate $f(-5)$



Quadratic functions treasure hunt

Name:

