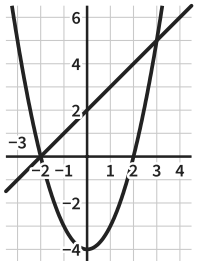
Simultaneous equations: linear and quadratic

1

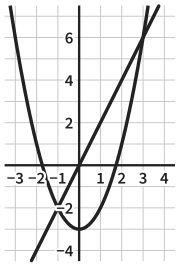
The graphs of $y = x^2 - 4$ and $y = x + 2$ are drawn. Write down the coordinates of the points where they meet.



(−2, 0)

2

The graphs of $y = x^2 - 3$ and $y = 2x$ are drawn. Write down the coordinates of the points where they meet.



3

Find the x values where the graphs of $y = x^2$ and $y = x + 20$ meet.

$x^2 = x + 20$

$x^2 - x - 20 = 0$

Answer

4

Find the x values where the graphs of $y = x^2$ and $y = 2x + 8$ meet.

$x^2 = 2x + 8$

Answer

5 *Notice the change!*

Find the x values where the graphs of $y = x^2$ and $y = 3 - 2x$ meet.

Answer

6

Solve the simultaneous equations $y = x^2$ and $y = 2x + 15$.

$x^2 = 2x + 15$

Answer

7 *Notice the change!*

Solve the simultaneous equations $y = x^2 + 3$ and $y = 2x + 6$.

Answer

8

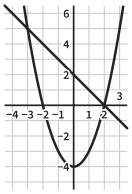
Ben solves $y = x^2$ and $y = 3x + 4$.
He writes $(x - 4)(x + 1) = 0$, so $x = -4$ **or** $x = 1$. His answer is (−4, 16) and (1, 1). Explain his mistake and find the right answer.

Answer

Simultaneous equations: linear and quadratic *further practice*

9

Write down where the graphs of $y = x^2 - 4$ and $y = 2 - x$ meet.
Check each point in both equations.



Answer

10

Find the x values where the graphs of $y = x^2 + 1$ and $y = 4x - 2$ meet.

Answer

11

Solve the simultaneous equations $y = x^2$ and $y = 4x + 5$.

Answer

12

Solve the simultaneous equations $y = x^2 - 5$ and $y = 2x + 3$.

Answer

13

Show that the line $y = 7x - 12$ meets the curve $y = x^2$ at (3, 9).
Find the other point where they meet.

Answer

14

How many times does the line $y = 4x - 4$ meet the curve $y = x^2$?
Find where.

Answer

15

Solve the simultaneous equations $y = x^2 + x$ and $y = 5x - 3$.

Answer

16

The line $y = 3x + c$ meets the curve $y = x^2$ at (5, 25). Find c. Then find the other point where they meet.

Answer