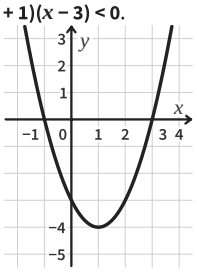
Quadratic inequalities

1

The graph of $y = (x + 1)(x - 3)$ is drawn.

Solve $(x + 1)(x - 3) < 0$.



−1 and 3

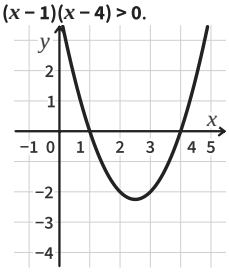
below

Answer

2

The graph of $y = (x - 1)(x - 4)$ is drawn.

Solve $(x - 1)(x - 4) > 0$.

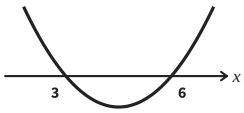


1 and 4

Answer

3

Solve $(x - 3)(x - 6) < 0$.

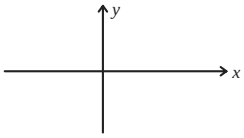


x = 3 or x = 6

Answer

4

Solve $(x + 3)(x - 5) > 0$.



x = −3 or x = 5

Answer

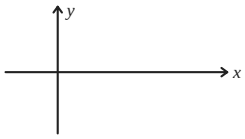
5 *Notice the change!*

Solve $(x + 6)(x + 2) < 0$.

Answer

6

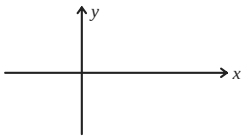
Solve $x(x - 5) > 0$.



Answer

7 *Notice the change!*

Solve $(x + 1)(x - 4) \leq 0$. Write down the integers that fit.

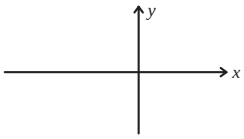


x = −1 or x = 4

Integers

8

Solve $(x + 4)(x - 2) \geq 0$.



Answer

Quadratic inequalities *further practice*

9

Solve $(x - 4)(x + 2) < 0$.

Answer

10

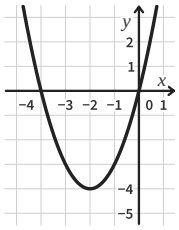
Solve $(x + 7)(x - 1) > 0$.

Answer

11

The graph of $y = x(x + 4)$ is drawn.

Use it to solve $x(x + 4) \geq 0$.



Answer

12

How many integers fit

$(x + 3)(x - 4) \leq 0$?

Answer

13

Write an inequality like

$(x - 1)(x - 6) > 0$ whose answer is

$-2 < x < 5$.

Answer

14

Leah solves $(x - 1)(x - 6) > 0$ and writes $1 < x < 6$. Explain her mistake and write the right answer.

Answer

15

Factorise $x^2 - 6x + 8$.

Then solve $x^2 - 6x + 8 < 0$.

Answer

16

Tom says $x^2 \leq 36$ means $x \leq 6$.

Give a value of x that shows he is wrong. Then write the right answer.

Answer