Solve a quadratic equation by factorising

Maths



Solve a quadratic equation by factorising

1. Solve each equation.

a)
$$(y + 5)(y + 3) = 0$$

b)
$$(w + 5)(w - 3) = 0$$

c)
$$(m-7)(m-1) = 0$$

2. Factorise and solve each equation.

a)
$$x^2 + 5x + 6 = 0$$

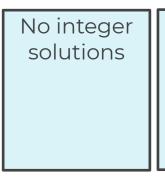
b)
$$x^2 + 7x + 6 = 0$$

c)
$$x^2 + 7x - 18 = 0$$

d)
$$x^2 + 6x + 9 = 0$$

$$e)x^2 - 9 = 0$$

3. Sort each equation into the correct category.



One solution

Two solutions

$$x^{2} - 36$$
 $x^{2} + 4x + 4$ $x^{2} + 7x + 10$ $x^{2} + 25$ $x^{2} + 4x + 5$



Answers



Solve a quadratic equation by factorising

1. Solve each equation.

a)
$$(y + 5)(y + 3) = 0$$
 $y = -5$ and $y = -3$

b)
$$(w + 5)(w - 3) = 0$$
 $w = -5$ and $w = 3$

c)
$$(m-7)(m-1) = 0$$
 $m = 7$ and $m = 1$

2. Factorise and solve each equation.

a)
$$x^2 + 5x + 6 = 0$$
 $x = -2$ and $x = -3$

b)
$$x^2 + 7x + 6 = 0$$
 $x = -1$ and $x = -6$

c)
$$x^2 + 7x - 18 = 0$$
 $x = -9$ and $x = 2$

d)
$$x^2 + 6x + 9 = 0$$
 $x = -3$

e)
$$x^2 - 9 = 0$$
 $x = -3$ and $x = 3$

3. Sort each equation into the correct category.

No integer solutions

$$x^2 + 4x + 5$$

$$x^2 + 25$$

One solution

$$x^2 + 4x + 4$$

Two solutions

$$x^2 - 36$$

$$x^2 + 7x + 10$$

$$x^2 - 36$$

$$x^2 + 4x + 4$$

$$x^2 - 36$$
 $x^2 + 4x + 4$ $x^2 + 7x + 10$

$$x^2 + 25$$

$$x^2 + 25$$
 $x^2 + 4x + 5$

