

Quadratic Formula

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Examples

Workout



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Question 1: Solve the following equations using the quadratic formula.
Give your answers to 1 decimal place.

(a) $x^2 + 5x + 1 = 0$

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

(c) $4x^2 + 8x + 3 = 0$

(d) $x^2 + 2x - 4 = 0$

(e) $3x^2 + 4x - 5 = 0$

(f) $2x^2 + 5x - 10 = 0$

(h) $x^2 - 4x + 2 = 0$

(i) $7x^2 - 6x + 1 = 0$

(j) $3x^2 - 10x + 4 = 0$

(k) $x^2 - x - 11 = 0$

(l) $x^2 - 6x - 20 = 0$

(m) $2x^2 - x - 9 = 0$

(n) $9x^2 - 12x + 2 = 0$

(o) $4x^2 + 4x + 1 = 0$

(p) $8x^2 - 8x - 9 = 0$

(q) $2x^2 + 3x - 100 = 0$

(r) $3x^2 - 23x - 67 = 0$

(s) $2x^2 + 16x + 1 = 0$

Question 2: Solve the following equations using the quadratic formula.
Give your answers to 2 decimal places.

(a) $x^2 + 7x = 20$

(b) $2x^2 = 9x + 40$

(c) $3x^2 = 10 - 2x$

(d) $x^2 - 8 = x$

(e) $7x = 13 - x^2$

(f) $4x^2 - 9 = 2x^2 + 4x$

Apply

Question 1: A rectangular garden is 5m longer than it is wide.
The area of the garden is 600m^2
Calculate the width and length of the garden.

Question 2: A rectangular field is 30m longer than it is wide. The area of the field is 5000m^2
Calculate the width and length of the field.

Question 3: A rectangular playground is 10m longer than it is wide.
The area of the playground is 1400m^2
Calculate the width and length of the playground.

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Question 4: A field has width x and length $2x + 1$.
The area of the field is 600m^2
Find the width and length of the field.

Question 5: James is solving a quadratic equation in the form $ax^2 + bx + c = 0$
He has got to this point in his working out.

$$x = \frac{-6 \pm \sqrt{12}}{4}$$

Find the values of a , b and c for the equation James is solving.

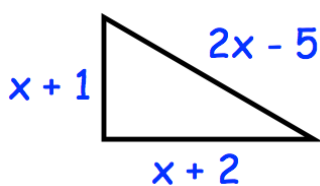
Question 6: Hannah is solving a quadratic equation in the form $ax^2 + bx + c = 0$
She has got to this point in her working out.

$$x = \frac{3 \pm \sqrt{29}}{2}$$

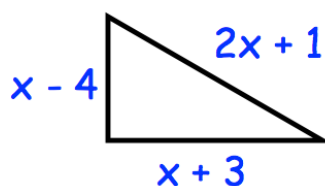
Find the values of a , b and c for the equation Hannah is solving.

Question 7: Below are three right angled triangles.
For each, find the possible values for x .

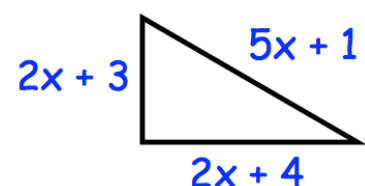
(a)



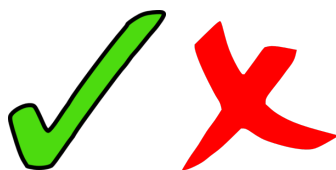
(b)



(c)



Answers



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