Solving Quadratics by Factorising

Junior Cycle Maths · Junior Cycle and Transition Year · About 25 minutes · 8 questions

Name _____ Date _____ Score / 8

WHAT YOU WILL PRACTISE

- Factorise a quadratic and solve it equal to zero
- Recognise the difference of two squares and a common factor of x
- Rearrange an equation into the form $ax^2 + bx + c = 0$ before solving

WORKED EXAMPLE

Solve $x^2 - 3x - 10 = 0$.

1. Find two numbers that multiply to -10 and add to -3: these are -5 and 2.
2. Factorise: $(x - 5)(x + 2) = 0$.
3. Set each bracket equal to zero: $x - 5 = 0$ or $x + 2 = 0$.
4. Solve each one: $x = 5$ or $x = -2$.

Answer: $x = 5$ or $x = -2$

Questions

Show your working in the space under each question.

1. Solve $x^2 + 5x + 6 = 0$

2. Solve $x^2 - 7x + 10 = 0$

3. Solve $x^2 + 2x - 8 = 0$

© YFCampus · www.yfcampus.com · Free to print for home and classroom use. Not for resale.

4. Solve $x^2 - 9 = 0$

5. Solve $x^2 - 6x = 0$

6. Solve $x^2 - x - 12 = 0$

7. Solve $2x^2 + 7x + 3 = 0$

8. Solve $x^2 + 3x = 10$

Answers: Solving Quadratics by Factorising

Mark your own work, then go back to any question you got wrong before reading the tutor tip.

Q	QUESTION	ANSWER
1	Solve $x^2 + 5x + 6 = 0$	**$x = -2$ or $x = -3$**
2	Solve $x^2 - 7x + 10 = 0$	**$x = 2$ or $x = 5$**
3	Solve $x^2 + 2x - 8 = 0$	**$x = 2$ or $x = -4$**
4	Solve $x^2 - 9 = 0$	**$x = 3$ or $x = -3$**
5	Solve $x^2 - 6x = 0$	**$x = 0$ or $x = 6$**
6	Solve $x^2 - x - 12 = 0$	**$x = 4$ or $x = -3$**
7	Solve $2x^2 + 7x + 3 = 0$	**$x = -\frac{1}{2}$ or $x = -3$**
8	Solve $x^2 + 3x = 10$	**$x = 2$ or $x = -5$**

TUTOR TIP

A quadratic almost always has two solutions. If you have written only one, go back and check the second bracket.

Stuck on a question? Work through it live with a tutor.

YFCampus offers one-to-one online Maths tutoring matched to your school curriculum. Book a free trial class at **www.yfcampus.com/ie**

Written for students aged 13 to 16 and suitable for Junior Cycle and Transition Year. Check your school's curriculum for the exact order of topics. YFCampus is independent and is not affiliated with any exam board or education ministry.