

Name: _____ Date: _____

SOLVING QUADRATIC EQUATIONS BY FACTORISING

Instructions: Complete all questions in the Spiral, Develop, and Apply sections. Show all your working out.

SPIRAL

1. Represent the inequality $-1 < x < 4$ on a number line.

2. Solve $4x + 3 < 2x - 5$.

3. y is inversely proportional to x .
When $x = 4$, $y = 6$. Find y when $x = 8$.

4. Calculate the size of one interior angle of a regular 12-sided polygon.

DEVELOP

<https://corbettmaths.com/2013/04/03/solving-quadratics-by-factorising/>

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

2. $x^2 + 8x + 12 = 0$

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

4. $x^2 + 2x - 15 = 0$

5. $x^2 - 10x + 21 = 0$

6. $x^2 - 49 = 0$

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

8. $x^2 - 4x = 0$

9. $2x^2 + 7x + 3 = 0$

10. $3x^2 + 10x + 7 = 0$

11. $2x^2 - 5x - 3 = 0$

12. $4x^2 - 16 = 0$

13. $5x^2 - 13x + 6 = 0$

14. $6x^2 + 11x - 10 = 0$

15. $3x^2 - 14x + 8 = 0$

16. $4x^2 + 12x + 9 = 0$

17. $5x^2 + 2x - 3 = 0$

18. $2x^2 - 9x + 10 = 0$

19. $x^2 + 4x + 4 = 0$

20. $x^2 - 6x + 9 = 0$

21. $x^2 = 5x + 14$

22. $x^2 + 3x = 18$

23. $2x^2 = 3x + 5$

24. $3x^2 + 8x = 3$

25. $4x^2 = 11x - 6$

26. $x(2x - 1) = 15$

27. $(x + 3)(x - 2) = 12$

28. $(2x + 1)(x - 4) = 0$

29. $3x(x - 5) = 0$

30. $x^2 - 5x = 24$

APPLY

1. A rectangle has an area of 84m^2 . Its length is 5m longer than its width. Find the dimensions of the rectangle.
2. The product of two consecutive integers is 56. Find the integers.