DANEMATHICS
FREE CAPS MATHS RESOURCES

GRADE 11 · EQUATIONS AND INEQUALITIES

Solving Quadratic Equations: Factorising, Formula and Completing the Square

WORKSHEET

Name: ..... Class: .....

Date: .....

MARK ____ / 36

Answer all questions. Show all your working — marks are awarded for method as well as the final answer.

1 Solve $x^2 - 7x + 12 = 0$. *(factorise)* (2)

2 Solve $x^2 + 2x - 8 = 0$. *(factorise)* (2)

3 Solve $x^2 - 9x = 0$. *(common factor)* (2)

4 Solve $x^2 - 16 = 0$. *(difference of squares)* (2)

5 Solve $x^2 + 4x + 1 = 0$ (formula, 2 decimal places). *(formula)* **(3)**

6 Solve $2x^2 - 5x + 1 = 0$ (formula, 2 decimal places). *(formula)* **(3)**

7 Solve $x^2 + 8x - 9 = 0$ by **completing the square**. *(complete the square)* **(3)**

8 Solve $3x^2 - 12x + 5 = 0$ by completing the square, correct to TWO decimal places. *(complete the square)* **(4)**

9 Write $x^2 - 10x + 3$ in the form $(x + p)^2 + q$. *(complete the square)* **(2)**

10 Solve $x^2 = 2x + 15$. *(rearrange)* **(3)**

11 Solve $2x^2 + 7x + 3 = 0$. *(leading coeff)* **(3)**

12 Solve $x + \frac{5}{x} = 6$. *(fraction)* **(4)**

13 Solve $(x - 2)(x + 1) = 4$. *(expand first)* **(3)**

TOTAL: 36 marks

© Danemathics — free to print and share for classroom use.