

Nelson Maths 9 for the CSF II

Homework and Assessment Sheets

Quadratic equations

AL 9-9

Name: _____ Class: _____

Due date: _____ Parent's signature: _____

Level 5					/10	Level 6										/20					

Part A: Level 5

By substituting the answer in the original expression, state whether the solution is correct or incorrect.

1 $\frac{3x+2}{2x+4} = 1$ $x = 2$ _____

2 $3(2x-7)^2 = 27$ $x = 5$ _____

3 $\frac{x^2+3x}{x} = 12$ $x = 8$ _____

4 $x(x+3) = 88$ $x = 8$ _____

Use backtracking to solve each of these equations.

5 $5x + 3 = 13$ → → $x =$ _____

6 $7\left(\frac{n}{2} - 3\right) = 42$ → → → $n =$ _____

7 $3\left(\frac{k}{2} - 7\right) + 6 = 15$ → → → → $k =$ _____

Find the value of the pronumeral in the following equations by undoing operations. Write down each step.

8 $8x - 1 = 23$

9 $\frac{2x}{3} + 1 = 5$

Use guess and check to find two different solutions.

10 $2x^2 - 9x = 5$ $x =$ _____

Part B: Level 6

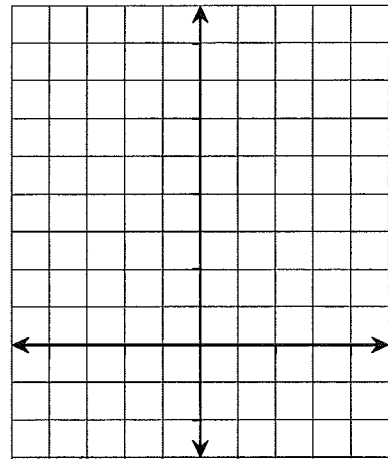
1 and 2 Complete the table for the equation $y = x^2 + 2x$ (2 marks).

x	-3	-2	-1	0	1	2	3
y							

3 and 4 Plot the values in the table as ordered pairs and join them with a smooth curve (2 marks).

5 Give the coordinates of the y -intercept.
(_____, _____)

6 Give the coordinates of the x -intercepts.
(_____, _____) and (_____, _____)



Solve each of the following equations.

7 $x^2 + 2x = 3$ $x =$ _____

8 $x^2 + 2x = -1$ $x =$ _____

Solve each of the following quadratic equations.

9 $x(x - 3) = 0$

10 $(x - 4)(x + 2) = 0$

11 $(3x + 12)(2x - 5) = 0$

12 $x^2 - 7x + 12 = 0$

13 $x^2 + 5x = 0$

14 $x^2 - 8x = 33$

15 $(x + 3)(x + 2) = 6$

16 $x^2 - 144 = 0$

Write equations (but do not solve) for each of these statements.

17 The product of two consecutive numbers is 12. _____

18 A rectangle is twice as long as it is wide. Its area is 45 cm^2 . _____

19 Three consecutive numbers have a product of 210. _____

20 A school has 10% more boys than girls. The total enrolment is 945. _____

**P
u
z
z
l
e
r**

A gardener wants to enclose a garden bed using the side fence and 10 m of wire netting.
What is the largest area that she can enclose?

Vocabulary

Write the mathematical meaning of:

Null factor rule _____

Turning point _____