

# Nelson Maths 9 for the CSF II

## Homework and Assessment Sheets

### Linear equations

AL 9-3

Name: \_\_\_\_\_ Class: \_\_\_\_\_

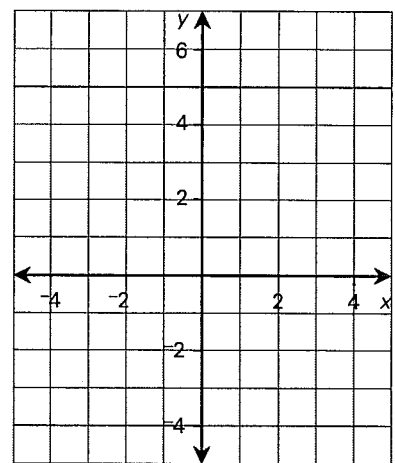
Due date: \_\_\_\_\_ Parent's signature: \_\_\_\_\_

Level 5					/10					Level 6					/20				

#### Part A: Level 5

1 to 4 Plot a graph of  $y = 2x + 1$  by completing the table below (2 marks) and plotting the values as ordered pairs (2 marks).

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



Use back tracking to solve these equations.

5  $3n - 5 = 13$       $\longrightarrow$    $\longrightarrow$       $n =$  \_\_\_\_\_

6  $5\left(\frac{n}{4} - 9\right) = 35$       $\longrightarrow$    $\longrightarrow$    $\longrightarrow$       $n =$  \_\_\_\_\_

7  $\frac{2(k-12)}{3} + 5 = 15$       $\longrightarrow$    $\longrightarrow$    $\longrightarrow$    $\longrightarrow$       $k =$  \_\_\_\_\_

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

8  $6x - 1 = 23$

9  $7(x + 3) = 56$

10 Use guess and check to find the solution to  $x^2 - 3x = 28$      $x =$  \_\_\_\_\_

#### Part B: Level 6

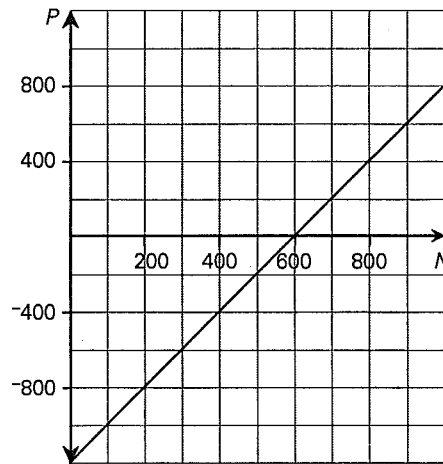
Solve these equations by undoing and check your answer by substitution.

1  $2(x - 4) + 3(x + 1) = 10$

2  $2(5x - 6) = 3(2x - 8)$

3  $\frac{x-4}{3} = -2$

Here is a graph showing the amount of profit (\$ $P$ ) to be made when selling  $N$  tickets for a football club raffle. The graph is based on the equation  $P = 2N - 1200$ .



- 4 What is the price of a ticket? \_\_\_\_\_
- 5 How much money will be lost if no tickets are sold? \_\_\_\_\_
- 6 How many tickets must be sold to 'break even'? \_\_\_\_\_
- 7 How much money will be made or lost if 400 tickets are sold? \_\_\_\_\_
- 8 How many tickets must be sold to make \$600? \_\_\_\_\_

Write an equation to solve each of these worded problems (use  $n$  for the number). Do not solve.

- 9 If three is added to a number the answer is 12. \_\_\_\_\_
- 10 If twice a number is subtracted from 17 the answer is 10. \_\_\_\_\_
- 11 The sum of a number and twice the number is 12. \_\_\_\_\_
- 12 The sum of two consecutive numbers is 12. \_\_\_\_\_
- 13 The product of two consecutive numbers is 12. \_\_\_\_\_
- 14 If 1 is added to a number and the result is divided by 3 the answer is 4. \_\_\_\_\_

Transform each of the following equations and change the subject.

- 15  $A = 3B - C$  Find  $B$ .
- 16  $E = \frac{1}{2}kx^2$  Find  $x$ .
- 17  $A = \frac{B + C}{P}$  Find  $P$ .

Use  $V = \frac{1}{3}\pi r^2 h$  to find the value of the variable in brackets, given the values of the other variables.

- 18  $\pi = 3.14, r = 2, h = 8.5, [V]$
- 19  $\pi = 3.14, V = 8.2, r = 2, [h]$
- 20  $V = 15, \pi = 3.14, h = 2.1, [r]$

P  
u  
z  
z  
l  
e  
r

$6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$  and is called 'six factorial'.

When it is worked out, how many 0s will  $60!$  have?

Vocabulary

Write the mathematical meaning of:

Transform \_\_\_\_\_

Subject \_\_\_\_\_