PERTH MODERN SCHOOL
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Test Two

Semester One 2017
UNIT 1 METHODS

Calculator Free 35 minutes ***/30 marks***

Only Formula Sheet Permitted

Name:

Place a tick in the box next to your Mathematics teachers name:

Mr Strain	☐
Ms Sindel	☐
Ms Rimando	☐
Ms Reynolds	☐
Dr Pearce	☐
Mrs Flynn	☐
Ms Ensly	☐
Mrs Carter	☐

Question 1 **(3, 3 = 6 marks)**

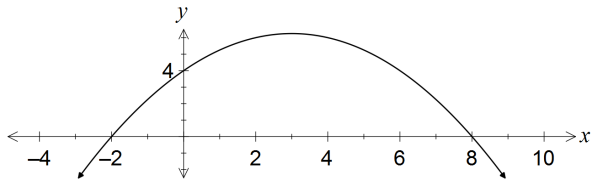
Find the equation of each linear function

a) Passing through (2,-3) and (4,1)

b) Perpendicular to the line $2x + y - 3 = 0$ and with x-intercept of -2.

Question 7 **(3, 2, 2 = 7 marks)**

(a) Part of the graph of $y = ax^2 + bx + 4$ is shown below.



Determine the values of the coefficients a and b.

(b) A quadratic has equation $y = x^2 - 6x + 2$. Determine

(i) the coordinates of its turning point.

(ii) the exact values of the zeros of the quadratic.

Question 6 **(2, 5 = 7 marks)**

Determine the rules for the following tables

a)

x	**-7**	**-6**	**-5**	**-4**	**-3**
y	11	10	9	8	7

b)

x	**1**	**2**	**3**	**4**	**5**	**6**	**7**
y	2	2	4	8	14	22	32

Question 2 **(2 marks)**

Given the points (-3, 1) and (4, 2) find the **exact value** of the distance between them.

Question 3 **(2 marks)**

The gradient of the straight line between $(3, y)$ and $(-2, 5)$ is $-\frac{3}{5}$. Find the value of y.

Question 4 **(1, 1 = 2 marks)**

The quadratic equation $kx^2 + 5x - 3 = 0$ has exactly one real solution.

a) What is the value of the discriminant?

b) Hence, find the value of k.

Question 5 **(2, 2 = 4 marks)**

Solve the following quadratic equations giving exact answers

a) $x^2 + 2x - 15 = 0$

b) $x^2 - 3x - 5 = 0$