PERTH MODERN SCHOOL
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Mini Test Chap 1, 2 & 3

Semester One 2018
Mathematics Methods
Calc Assumed
(Formula sheet allowed)

Name:

Time: 25 minutes **Total:** /25 marks

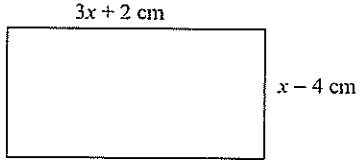
Working needs to be shown for full marks

Question 1 [2 marks]

If $\frac{x}{6} - \frac{x-4}{2} = 0$, then what does x equal?

Question 2 [2 marks]

The perimeter of the rectangle shown is 60 cm.



What is the value of x?

Question 3 2 mark]

Solve the simultaneous equations:

$8x + 3y = 14$

$2x + y = 4$

Question 4 [2 marks]

What is the equation of the line that passes through the point (5, 9) and is parallel to the line $y = 3x + 7$.

Question 5 [1 marks]

Point A has coordinates (1, 10) and point B has coordinates (5, 2). What are the coordinates of the midpoint of the line segment AB.

Question 6 [2 marks]

What is the gradient of the line passing through the points with coordinates (2, 6) and (3, 11).

Question 7 [3 marks]

What is the equation of the parabola that passes through the point (2, 11) and has its vertex at (–1, 4).

Question 8 [2 marks]

What is the maximum value of y for $y = 8 + 2x - x^2$.

Question 9 [4 marks]

The graph of $y = 2x^2 - kx + 3$ touches the x-axis. What are the possible values of k.

Question 10 [1, 1, 1, 2 = 5 marks]

The height, h m, of a stone t seconds after it is thrown vertically upwards is given by $h = 41t - 5.5t^2$.

a Find the maximum height reached by the stone.

b What is the height of the stone when $t = 3$?

c Find the time it takes for the stone to return to the ground.

d Find the times at which the height of the stone is 60 m.