

Name:	School:	Target Grade:
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**HEADSTART QUIZ TO
SECONDARY 2 MATH****READ THESE INSTRUCTIONS FIRST****INSTRUCTIONS TO CANDIDATES**

1. This is a 30 marks quiz.
2. The key to do well in Sec 2 is to have a strong Mastery in Algebra Concepts, therefore majority of the questions here are testing on your Algebra Knowledge.
3. The first chapter of Sec 2 is on Linear Graphs, therefore, I have included 2 simple graph questions which you've learnt in Sec 1.

Word of Encouragement:

No matter your Sec 1 grades, let Secondary 2 be a fresh new chapter!

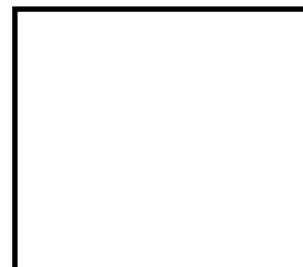
As I mentioned, Algebra will take up more than 50% of your Sec 2 Syllabus.

Start early, and you'll find Secondary 2 Math much easier to tackle.

You've got this—believe in yourself!

I believe in you.

Team Paradigm

**PARADIGM**

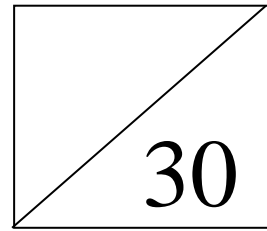
[Turn Over]

Name: _____

Class: _____

Date: _____

Secondary 2 Mathematics
HEADSTART



- 1** Express the following word statements algebraically in their simplest form.
- (a) Subtract a from the cube of b . [1]
- (b) Divide the product of $2c$ and 3 by the square root of d . [1]
- (c) Multiply $3f$ to the sum of $4f$ and $5f$. [1]
- 2** Simplify $\frac{2x-1}{3} - \frac{x}{12}$. [2]
- 3** Simplify $4a - 3b + 8 - [3(a - b) + 2]$. [1]

4 Factorise the following expressions

(a) $15a^2b + 6ac$, [1]

(b) $(2v - w)(p + 1) + 2w(p + 1)$. [1]

5 It is given that $x = 4$ and $y = -3$. Evaluate

(a) $5y^2 - xy^3$, [1]

(b) $\frac{x}{y} + \frac{y}{x}$ [1]

6 Solve the following equations.

(a) $4x - 5 = 3(3 + 2x)$ [1]

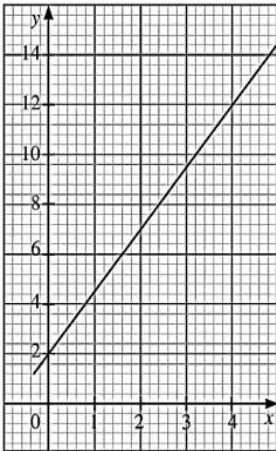
(b) $\frac{2}{x} = \frac{3}{x+2}$ [2]

(c) $2 - \frac{x-9}{3} = -3$ [1]

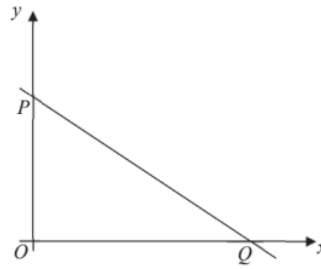
- 7 Mr Tan is presently 4 times as old as his son Kenneth.
 (a) If Kenneth is x years old now, write down Mr. Tan's age in terms of x . [1]

- (b) In 20 years' time, Mr. Tan will be 2 times as old as Kenneth.
 Form an equation in x , and hence find Mr. Tan's age in 20 years' time? [2]

- 8 Solve $x^3 = 661 - 4(9 + x^3)$ [3]

- 9  (a) Find the gradient of the line. [1]
- (b) Write down the y -intercept of the line. [1]
- (c) Write down the equation of the vertical line that passes through $(2, 0)$. [1]

- 10** The equation of the line $3x + y - 4 = 0$ cuts the y - and x - axes at P and Q respectively.



- (a) Write down the value of the y - intercept of the graph. [1]
- (b) What is the gradient of line PQ ? [1]
- (c) Given point Q is $(q, 0)$, find the value of q . [1]
- 11** (a) Express $\frac{5(x-2)}{4} - \frac{(1-2x)}{3}$ as a fraction with a single denominator. [2]

- (b) Hence, solve $\frac{5(x-2)}{4} - \frac{(1-2x)}{3} = 2$. [2]