



**PERTH MODERN SCHOOL**  
Exceptional schooling. Exceptional students.  
**Independent Public School**

**Course** 11 METHODS **Year** 11

Student name: MARKING KEY Teacher name: \_\_\_\_\_

**Task type:** Test 1 Weds week 2 2021

**Time allowed for this task:** 40 mins

**Number of questions:** \_\_\_\_\_

**Materials required:** No calculators nor classpads

**Standard items:** Pens (blue/black preferred), pencils (including coloured), sharpener, correction fluid/tape, eraser, ruler, highlighters

**Special items:** Drawing instruments, templates (No notes allowed)

**Marks available:** 42\_ marks & 7 questions

**Task weighting:** 10\_ %

**Formula sheet provided:** No

**Note:** All part questions worth more than 2 marks require working to obtain full marks.

Q1 (1, 1, 2, 3, 3, 3 &amp; 4 = 17 marks) (1.1.6)

Solve the following linear equations showing full working.

|  |                                    |
|--|------------------------------------|
| a) $7x - 11 = 5x$                            | b) $6x + 7 = 10 - 4x$              |
| c) $2(1 + 3x) = 9x - 2$                      | d) $x + 7 = \frac{5}{2}x$          |
| e) $\frac{5x - 3}{3} = \frac{8x + 1}{6}$     | f) $\frac{x}{4} + \frac{x}{5} = 7$ |
| g) $\frac{3y - 1}{2} + \frac{5y + 2}{4} = y$ |                                    |

Q2 (2 & 2 = 4 marks) (1.1.6)

\$1200 is divided between three students A,B & C. Student A receives one third the amount that student B receives and student C receives twice the amount of student A. Let  $x$  equal the amount that student B receives.

a) Write the above as a linear equation in terms of  $x$ .

b) Solve for  $x$  and hence state the amount that each student receives.

Q3 (2 & 2 = 4 marks) (1.1.6)

Three consecutive even numbers add up to 366.

a) By introducing a variable  $x$ , express the above statement as a linear equation for  $x$ .

b) Solve for  $x$  and hence state the three even numbers.

Q4 (4 marks) (1.1.6)

A woman travels at 10 km/h from A to B and from B to A at 4 km/h. The total journey takes 90 minutes. Determine the distance travelled.

Q5 (3 &amp; 3 = 6 marks) (1.1.6)

Solve the following.

a)

$$x = 3y - 5$$

$$3x + 5y = 13$$

b)

$$5x + 2y = 41$$

$$3x + 5y = 36$$

Q6 (4 marks) (1.1.6)

Hilary thinks of a two-digit number. The sum of the digits is 14. If she reverses the digits, the new number is 18 less than her original number. Solve for Hilary's original number **using** simultaneous equations.

Q7 (3 marks) (1.1.6)

Solve for  $x$  in terms of the constants  $a$  &  $b$  for the following. (simplify)

$$\frac{x+a}{b} + \frac{b-x}{a} - 2 = 0$$