

Year 9 Term 1 Test

Student Name: _____	Grade: _____
Date: _____	Score: _____

- Answer the questions in the spaces provided on the question sheets.
- If you run out of room for an answer, continue on the back of the page.
- This test has 15 questions, for a total of 100 marks.
- Do not use a calculator.
- Attempt all 15 questions.
- Time allowed: 45 minutes.

Page:	1	2	3	4	5	6	Total
Points:	14	14	15	22	20	15	100
Score:							

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One and two step equation questions (Questions 1 through 3)

1. Solve each of these equations, giving your answers as fractions or mixed numerals, in its simplest form.

(a) $7p + 27 = -18$ [2]

(b) $9p^2 = 16$ [2]

(c) $81y^2 + 6 = 10$ [2]

2. If $S = \frac{D}{T}$, find D when S is 52.5 km/h and T = 2 hours and 24 min. [4]

3. 36 less than five times a number equals 124. What is the number? [4]

Equations with pronumerals on both sides (Questions 4 through 6)

4. Solve the following equations:

(a) $8 - 6x = 12 + 4x$

[2]

(b) $1.2x - 2.6 = 2.8x + 4.2$

[2]

(c) $-6 - 6p = 3 - 12p$

[2]

5. Six times a number equals 24 less than nine times the number. What is the number?

[4]

6. Two more than eight times a number is equal to the number increased by 100. What is the number?

[4]

Equations with grouping symbols (Questions 7 through 9)

7. Solve the following equations:

(a) $2(3y - 5) + 4(9 + y) = 166$ [2]

(b) $4(5x + 3) - 4(6x - 5) = 0$ [2]

(c) $(4 + 7x) + (5x - 9) - (3 + 8x) = 0$ [3]

8. Two brothers are presently 2 years old and 14 years old respectively. How many years will have to pass before the elder brother is $2\frac{1}{2}$ times the age of younger brother? [4]

9. Six years ago, John was twice the age of Tom. At present, John is 12 years older than Tom. Find the sum of the ages of the two men. [4]

Equations with one or more than one fraction

10. Solve the following equations:

(a) $\frac{x+9}{4} = x$ [2]

(b) $\frac{9+8y}{7} + 6 = 13$ [3]

(c) $3y - 12 = \frac{2}{3}y + 2$ [4]

(d) $\frac{3x}{5} + \frac{x}{2} = 44$ [4]

(e) $\frac{a-3}{12} = \frac{1}{4}$ [4]

(f) $\frac{1}{2}(z - 3) + \frac{3}{5}(z + 1) = \frac{2}{3}$ [5]

Evaluate the subject of a formula

11. Find the value of the subject in each formula given that:

(a) If $y = mx + b$ when $m = 4$, $x = 8$ and $b = -5$. [5]

(b) If $R = \sqrt{a^2 + b^2}$, find R when $a = 2$, $b = \sqrt{5}$. [5]

Changing the Subject of a Formula

12. Transpose each formula so that y is the subject:

(a) $x = 3(y + z)$ [5]

(b) $C = \frac{a-by}{y-b}$, where a , b and c are constants. [5]

Problem Solving (Questions 13 through 15)

13. If the numerator and denominator in the fraction $\frac{3}{11}$ are increased by a certain number, the resulting fraction would then be $\frac{2}{3}$. Find the number. [5]

14. Eight more than three-quarters of a number is 32. What is the number? [5]

15. A number added to a half itself the result is $\frac{1}{6}$. What is the number? [5]
