

Name: \_\_\_\_\_

**ASM Tuition Academy**  
**SUBSTITUTIONS**

**Instructions:**

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided  
- there may be more space than you need.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all you're working out**.

**Information:**

- The marks for each question are shown in brackets  
- use this as a guide as to how much time to spend on each question.

**Advice:**

- Read each question carefully before you start to answer it.
- Keep an eye on time.
- Try to answer every question.
- Check your answers if you have time at the end.

Q1.

$$a = 8$$

$$b = 4$$

Work out the value of  $2a + 5b$ .

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**(Total for question 1 is 2 marks)**

Q2.

$$P=3t-9$$

Find the value of  $p$  when  $t = 8$ .

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**(Total for question 2 is 2 marks)**

Q3.

$$s = u + kt$$

$$u=5, k=12, t=4$$

Work out the value of  $s$ .

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**(Total for question 3 is 2 marks)**

Q4.

$$X = 9$$

$$Y = 7$$

Work out the value of  $2x - 3y$ .

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**(Total for question 4 is 2 marks)**

Q5.

$$D = 6m + 4n$$

Work out the value of  $D$  when  $m = -2$  and  $n = 5$ .

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**(Total for question 5 is 2 marks)**

Q6.

$$R = 7p - 2q$$

$$P = 5, q = 9$$

Work out the value of  $r$ .

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**(Total for question 6 is 2 marks)**

Q7.

$$K = 3h + 2g$$

Work out the value of  $K$  when  $h = 6$  and  $g = -3$ .

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**(Total for question 7 is 2 marks)**

Q8.

$$A = 6c + 3d$$

$$c = 2, d = -4$$

Work out the value of  $A$ .

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**(Total for question 8 is 2 marks)**

Q9.

$$L = 8m - 5n$$

Work out the value of  $L$  when  $m = 4$  and  $n = -2$ .

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**(Total for question 9 is 2 marks)**

Q10.

$$y = 4p + r$$

$$p = -5, r = 7$$

Work out the value of  $y$ .

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**(Total for question 10 is 2 marks)**

Q11.

$$Z = k - 3m$$

Work out the value of  $Z$  when  $k = 18$  and  $m = 4$ .

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**(Total for question 11 is 2 marks)**

Q12.

$$A = 7p + 2q$$

$$p=6, q=-3$$

Work out the value of  $A$ .

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**(Total for question 12 is 2 marks)**

Q13.

$$M=n(p-4)$$

Work out the value of  $M$  when  $n = 5$  and  $p = 9$ .

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**(Total for question 13 is 2 marks)**

Q14.

$$c=4ab$$

$$a=-6, b=-2$$

Work out the value of  $c$ .

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**(Total for question 14 is 2 marks)**

Q15.

$$Z = 5y^2 - 10$$

Work out the value of  $z$  when  $y = 5$

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**(Total for question 15 is 2 marks)**

Q16.  $C = p - 2q$

$p = -4, q = -7$

Work out the value of C.

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**(Total for question 16 is 2 marks)**

Q17.

$a = 6$

$b = -3$

$c = 4$

Work out the value of  $b^2 - 4ac$

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**(Total for question 17 is 2 marks)**

Q18.

$$d = m/v$$

Work out the value of  $d$  when  $m = 72$  and  $v = 8$

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**(Total for question 18 is 2 marks)**

Q19.

$$Z = 5j - jk$$

Work out the value of  $Z$  when  $j = 10$  and  $k = 2$

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**(Total for question 19 is 2 marks)**

Q20.

$$t = 10y^2 + 5$$

$$y = -3$$

Work out the value of  $t$ .

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**(Total for question 20 is 2 marks)**

Q21.

$$V = \frac{4}{3}\pi r^2$$

Work out the value of  $V$  when  $r=5$ .

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**(Total for question 21 is 2 marks)**

Q22.

$$A = \frac{1}{2}(a + b)h$$

Work out the value of A when  $a = 10$ ,  $b = 20$  and  $h = 10$

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**(Total for question 22 is 2 marks)**

Q23.

$$V = u + at$$

Work out the value of  $v$  when  $u = 11$ ,  $a = 10$  and  $t = 2$

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**(Total for question 23 is 2 marks)**

Q24.

$$y = mx + c$$

$$m = -4, x = 14 \text{ and } c = -2$$

Work out the value of  $y$ .

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**(Total for question 24 is 2 marks)**

Q25.

$$s = ut + \frac{1}{2}at^2$$

$$u = 4, a = 1 \text{ and } t = 2$$

Work out the value of  $s$ .

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**(Total for question 25 is 2 marks)**

Q26.

$$s = ut + \frac{1}{2}at^2$$

$$u = 4, a = 5 \text{ and } t = -6$$

Work out the value of s.

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**(Total for question 26 is 2 marks)**

Q27.

$$S = \frac{v^2 - u^2}{2a}$$

$$v = 9, u = 3 \text{ and } a = 3$$

Work out the value of s.

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**(Total for question 27 is 2 marks)**

