

**FOUNDATION TIER
MINI PRACTICE EXAM 2**

**NON-CALCULATOR
20 MINUTES ALLOWED**



1.

(a) Simplify fully $3a \times 4b$

$$12ab$$

(1)

(b) Expand $2x(x + 3)$

$$2x^2 + 6x$$

(1)

(c) Factorise fully $8y - 12$

$$4(2y - 3)$$

(1)

2.

(a) Solve $x - 2 < 5$

$$x < 7$$

(1)

(b) Solve $2x + 3 > 10$

$$\begin{aligned} 2x &> 7 \\ x &> \frac{7}{2} \end{aligned}$$

(2)

(c) Hence write down all integers that satisfy the inequalities $x - 2 < 5$ and $2x + 3 > 10$

$$4, 5, 6$$

(1)

3.

There are blue marbles and green marbles in a bag.
The ratio of blue marbles to green marbles is 3 : 7.

(a) If a marble is picked at random from the bag, what is the probability that it is blue?

$$\frac{3}{10}$$

(1)

(b) There are 49 green marbles in the bag. How many marbles are in the bag altogether?

$$49 \div 7 = 7$$

$$7 \times 10 = \underline{70}$$

(2)

4.

(a) Work out the n th term of the sequence 7, 11, 15, 19, 23, ...

$$4n + 3$$

(1)

(b) Use your n th term formula to work out the 70th term in the sequence

$$4 \times 70 + 3 = \underline{283}$$

(2)

(c) Is 95 in the sequence? Explain your answer.

$$\begin{array}{r} 4n + 3 = 95 \\ -3 \qquad -3 \\ \hline 4n = 92 \\ \div 4 \qquad \div 4 \\ \hline n = 23 \end{array}$$

Yes

(3)

5.

There are 120 students in Year 9.

They all either have packed lunches or school lunches, and study either French or Spanish.

$\frac{3}{5}$ of the students study French.

22 of the students that study Spanish have school lunches.

75% of the students that study French have packed lunches.

Complete the two-way table below.

	School lunches	Packed lunches	Total
Spanish	22	26	48
French	18	54	72
Total	40	80	120

$$\frac{3}{5} \text{ of } 120 = 72$$

$$75\% \text{ of } 72 = 54$$

(4)