

- 8 (a) (i) Write 84 as a product of prime factors.

(a)(i) ..... [2]

- (ii) Find the Lowest Common Multiple (LCM) of 84 and 120.

(ii) ..... [1]

- (b) At Eastgate School the ratio of boys to girls taking A-level Mathematics is 5:4.  
56 girls are taking A-level Mathematics.

What is the total number of students taking A-level Mathematics?

(b) ..... [3]

6

- 9 A is the point (4, 6).  
B is the point (6, 10).

Calculate the distance AB.

..... [3]

3

10 (a) Solve.

$$\frac{1}{3}x + 3 = 24$$

(a) ..... [3]

(b) (i) Solve the inequality  $3x + 4 \leq 1$ .

(b)(i) ..... [2]

(ii) Illustrate your solution on this number line.



[1]

6
---

11 A goat in a field is attached to a rope which can slide along a straight rail.  
The goat can move around the rail.

The rope is 2 m long.

The rail is 5 m long.

Using a scale of 1 cm to 1 m draw the boundary of the region  
in which the goat can move.

The rail is already shown.

Scale 1 cm to 1 m



[3]

3
---

- 12 The water tank in Geoff's motor caravan is a cuboid measuring 75 cm by 50 cm by 20 cm.  
Water is poured into the empty tank at a rate of 6 litres per minute.

How long does it take to fill the tank?

..... minutes [3]

3

- 13 80 pupils took part in a sponsored fun run.  
This table summarises the times taken.

Time ( $t$ minutes)	Number of pupils
$30 \leq t < 50$	8
$50 \leq t < 70$	32
$70 \leq t < 90$	12
$90 \leq t < 110$	10
$110 \leq t < 130$	18

Calculate an estimate of the mean time taken.

..... minutes [4]

4