

Lesson 5

Ratio : GCSE

Non - Calculator Throughout

5.1 TEST

Question 1

Cancel down the following ratios as far as possible by removing common factors

(i) $2 : 22$

(ii) $5 : 60$

(iii) $12 : 15$

(iv) $150 : 250$

(v) $12 : 28$

(vi) $36 : 48$

[6 marks]

Question 2

Cancel down the following ratios as far as possible by removing common factors

(i) $6 : 16 : 14$

(ii) $15 : 18 : 21$

(iii) $60 : 45 : 75$

(iv) $88 : 55 : 77$

(v) $1800 : 3600 : 900$

(vi) $260 : 120 : 180$

[6 marks]

Question 3

Jack spends £55 on a trip to the theatre.

His spend is split between

Theatre Tickets : Train Fare : Food

in the ratio

6 : 2 : 3

(i) How much does Jack spend on Theatre Tickets ?

(ii) How much does Jack spend on the Train Fare ?

(iii) How much does Jack spend on Food ?

Question 4

Peter raises £800 in a sponsored walk.

He decides to split it between three charities.

Help the Old : Dog Hospital : Food Bank

in the ratio

3 : 2 : 5

(i) How much does Peter give to Help the Old ?

(ii) How much does Peter give to the Dog Hospital ?

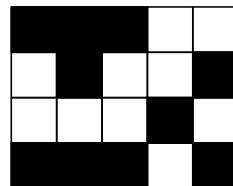
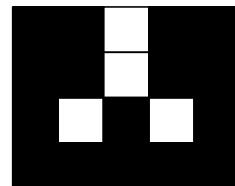
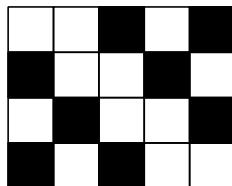
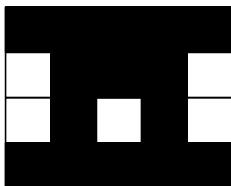
(iii) How much does Peter give to the Food Bank ?

Question 5

Underneath each diagram write down the ratio of

black squares : white squares

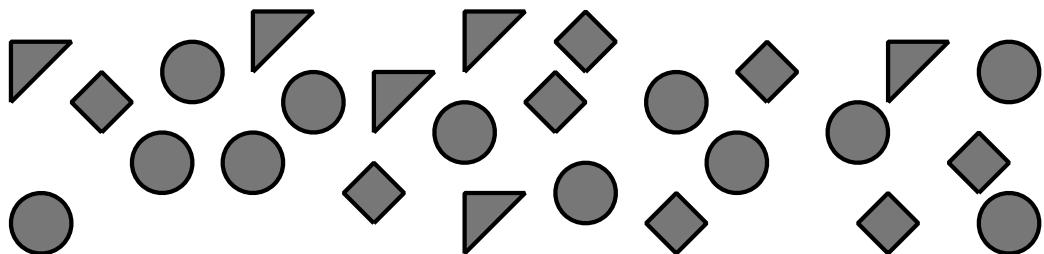
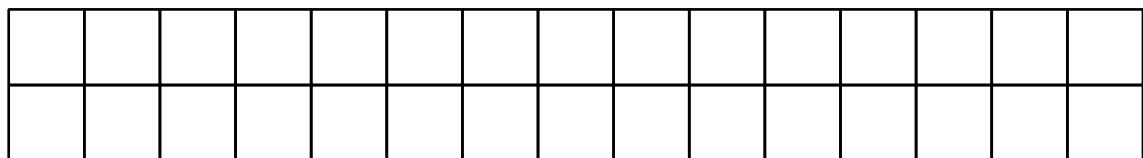
Cancel down each ratio as far as possible by removing any common factors

**Question 6**

Underneath the diagram write down the ratio of

circles : triangles : squares

Cancel down each ratio as far as possible by removing any common factors

**Question 7**

Shade in the squares so that the ratio of

shaded : unshaded

is 7 : 3

Question 8

Cancel down the following ratios as far as possible by removing common factors

(i) $6 \times 21 : 8 \times 35$

(ii) $12 \times 35 : 9 \times 25$

(iii) $40 \times 21 : 50 \times 27$

(iv) $16 \times 55 : 12 \times 22$

Question 9

For the Christmas table, Simon buys 5 boxes of 12 crackers and 3 packets of 15 'party poppers'. State the ratio of

crackers : party poppers

Question 10

For a BBQ, Lucy buys 6 packets of 8 sausage rolls, 5 boxes of 4 beef burgers and 10 packets of 4 chicken kebabs.

State the ratio of

sausage rolls : beef burgers : chicken kebabs

Question 11

In a Chemistry test, the scores of the twenty pupils in the class were

48	91	45	53	23	39	64	55	46	47
37	66	47	28	38	72	49	61	38	57

To pass the test a score of 40% or more was required.

State the ratio of

pass : *fail*

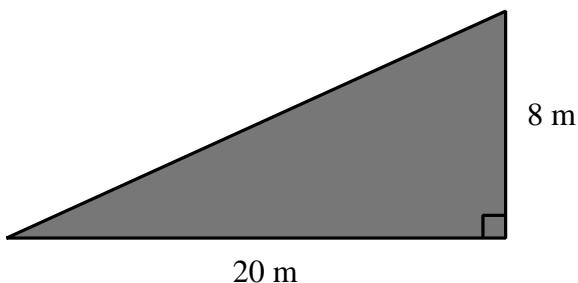
Question 12

For the following hills, write down the ratio of the slope in the form

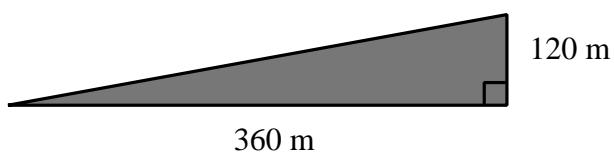
rise : *run*

and simplify the ratio by removing any common factors.

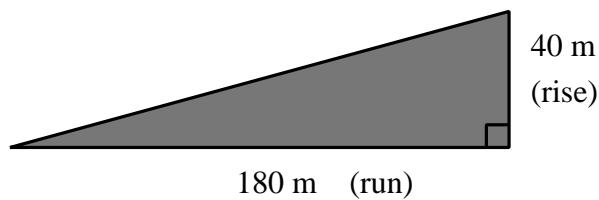
(i)



(ii)



(iii)



Question 13

Write the following ratios as percentages

(i) $1 : 4$

(ii) $3 : 5$

(iii) $3 : 10$

(iv) $2 : 3$

(v) $7 : 20$

(vi) $13 : 25$

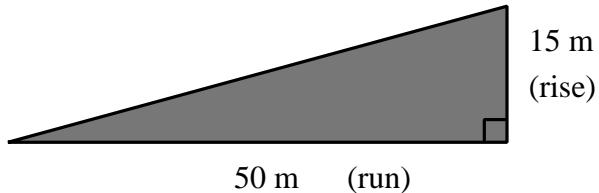
Question 14

For the following hills, write down the ratio of the slope in the form

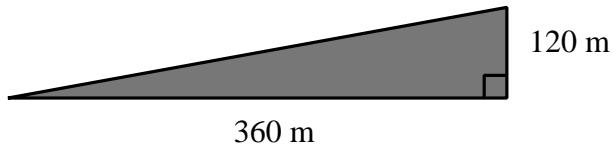
rise : *run*

and then simplify the ratio by removing any common factors before concluding by writing your simplified ratio as a percentage.

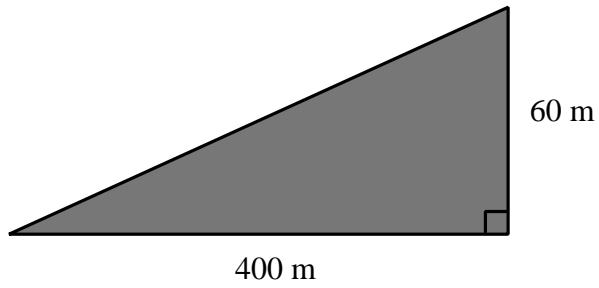
(i)



(ii)



(iii)



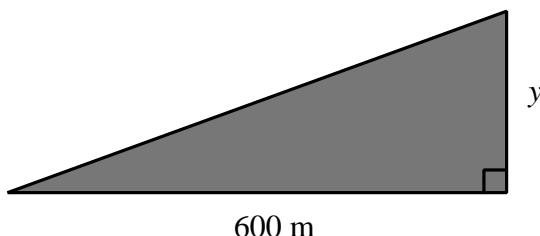
Question 15

For the following hills, the ratio of the slope in the form

$$\text{rise} : \text{run}$$

is

$$1 : 5$$



What is y , the height gained (the *rise*), over a horizontal distance of 600 m (the *run*) ?

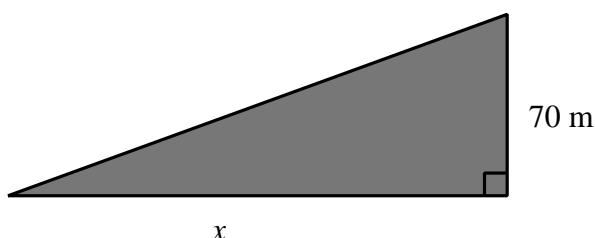
Question 16

For the following hills, the ratio of the slope in the form

$$\text{rise} : \text{run}$$

is

$$2 : 5$$



What is x , the horizontal distance (the *run*) when the height gained (the *rise*) is 70 m ?