

8300

## GCSE MATHEMATICS

Foundation tier – Questions by Topic

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Number

Finding fractions and percentages of shapes

v1.0

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Name \_\_\_\_\_

### Materials

For this paper you must have:

- Mathematical instruments

### Information

- The marks for questions are shown in brackets

### Advice

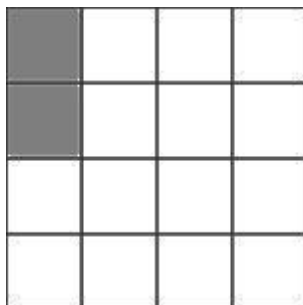
- In all calculations, show clearly how you work out your answer

For questions 1 to 2 you must **NOT** use a calculator.



**Q1.**

Kai has shaded two small squares on this centimetre grid.

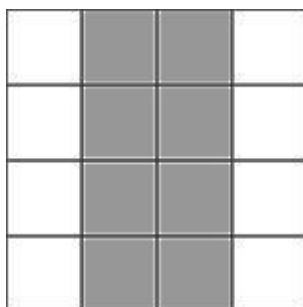


He wants  $\frac{3}{4}$  of the grid to be shaded.  
How many **more** small squares must he shade?

**(Total 2 marks)**

**Q2.**

Here is a centimetre grid.



What **percentage** of the grid is shaded?

**(Total 1 mark)**



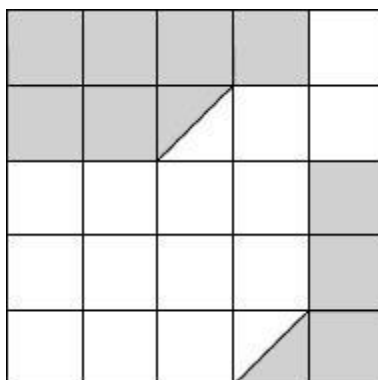
(a) Join each shape to the number line to show the fraction shaded.  
The first one has been done for you.



|  |  |  |  |  |  |
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(2)

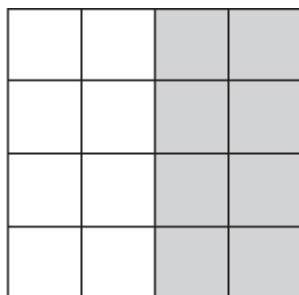
What percentage of this shape is shaded?



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**Q5.**

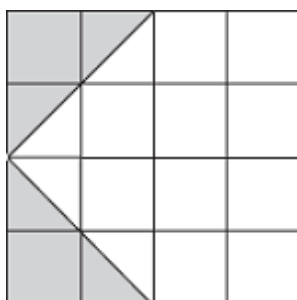
- (a) Here is a square grid.



What percentage of the grid is shaded?

**(1)**

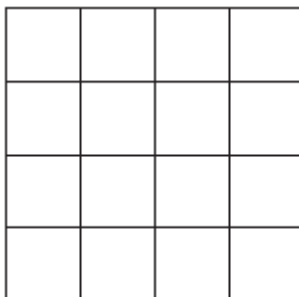
- (b) Here is another square grid.



What fraction of the grid is shaded?  
Give your answer in its simplest form.

**(2)**

- (c) Shade  $\frac{1}{8}$  of this square grid.

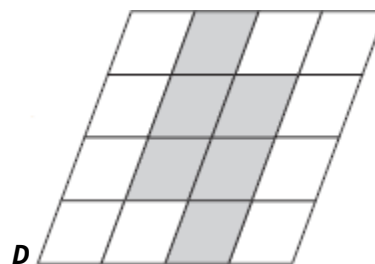
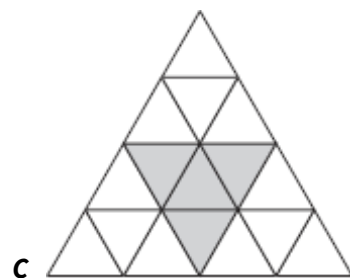
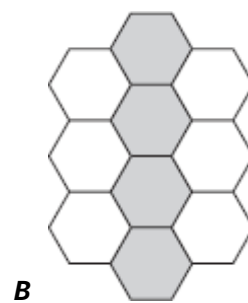
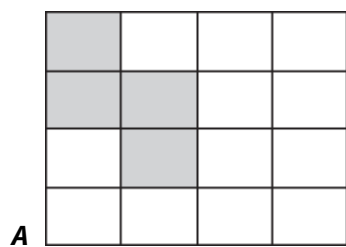


**(1)**

**(Total 4 marks)**

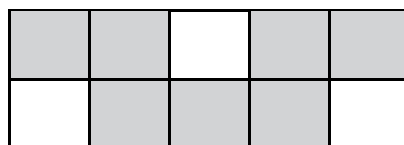
**Q6.**

(a) Which **two** grids have one-quarter shaded?



(2)

(b) What percentage of this grid is shaded?

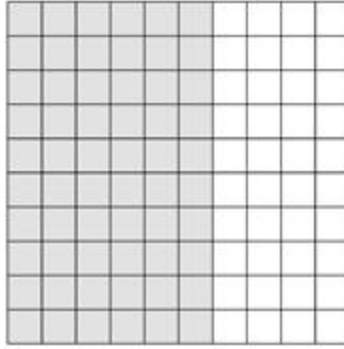


(2)

**(Total 4 marks)**

**Q7.**

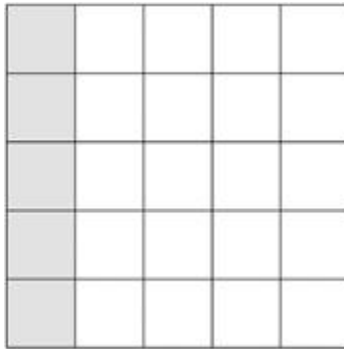
- (a) Here is a grid.



What percentage of the grid is shaded?

**(1)**

- (b) Here is a different grid.

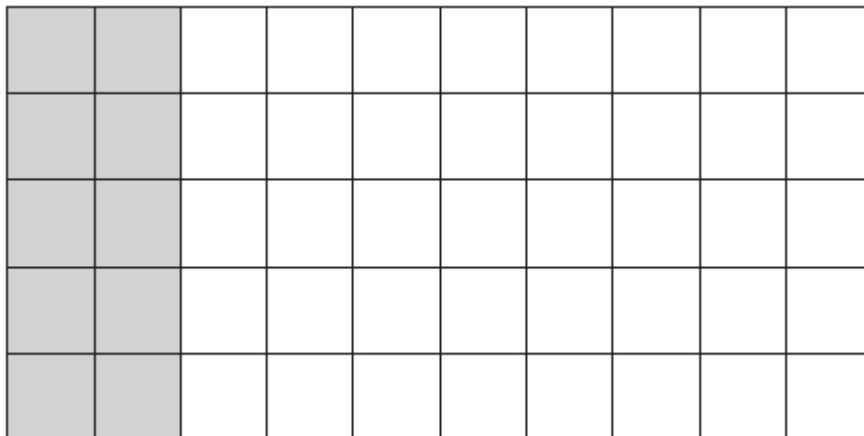


What percentage of the grid is shaded?

**(1)**

**(Total 2 marks)**

**Q8.**



- (a) What fraction of the grid is shaded?  
Give your answer in its simplest form.

**(2)**

- (b) How many **more** squares need to be shaded so that 60% of the grid is shaded?

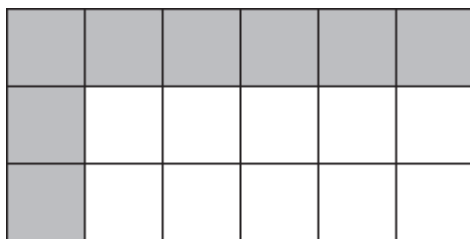
**(3)**

**(Total 5 marks)**

**Q9.**

How much of each shape is shaded?  
Tick the correct box.

(a)



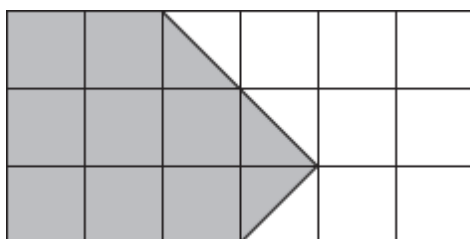
Less than  $\frac{1}{2}$  ☐

Exactly  $\frac{1}{2}$  ☐

More than  $\frac{1}{2}$  ☐

(1)

(b)



Less than  $\frac{1}{2}$  ☐

Exactly  $\frac{1}{2}$  ☐

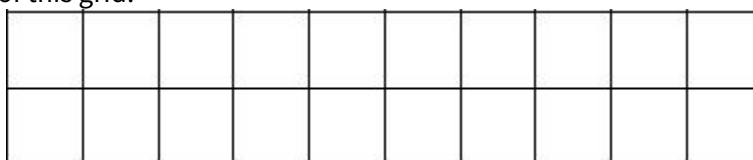
More than  $\frac{1}{2}$  ☐

(1)

(Total 2 marks)

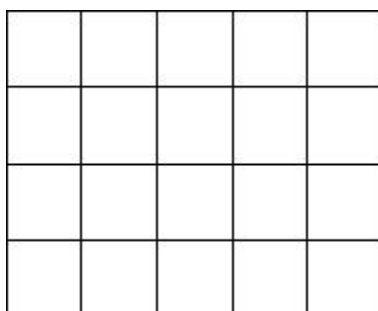
**Q10.**

(a) Shade  $\frac{2}{5}$  of this grid.



(1)

(b) Shade 10% of this grid.

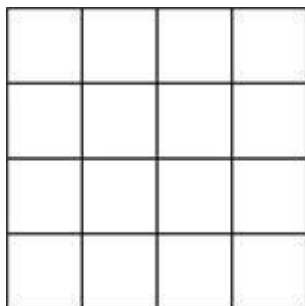


(1)

(Total 2 marks)

**Q11.**

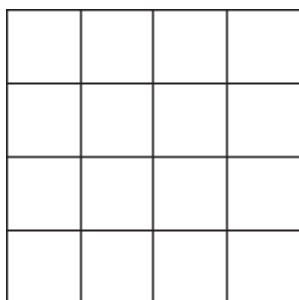
In the grid below, shade **one quarter** of the squares  
so that the grid has exactly **two** lines of symmetry.  
Shade complete squares only.



**(Total 2 marks)**

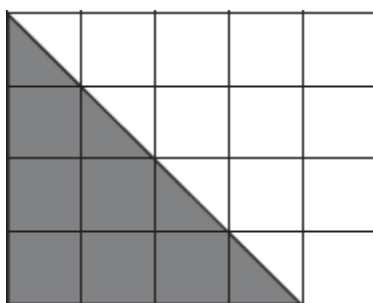
**Q12.**

(a) Shade 75% of this grid.



**(1)**

(b) Here is another grid.



Which **two** fractions represent the shaded part of this grid?  
Circle your answers.

$$\frac{2}{5}$$

$$\frac{1}{3}$$

$$\frac{10}{20}$$

$$\frac{4}{12}$$

$$\frac{8}{20}$$

**(2)**

**(Total 3 marks)**