



CITY OF LONDON  
FREEMEN'S SCHOOL

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## SAMPLE ENTRANCE EXAMINATION PAPER

For pupils currently in Year 7

# MATHEMATICS

- The test is one hour long.
- No calculators to be used.
- Show all working beside the relevant question.
- Write in ink, draw diagrams when necessary in pencil.
- Do not write in the right hand margin.

1. Calculate:

a)  $1.5 \times 785$  (1)

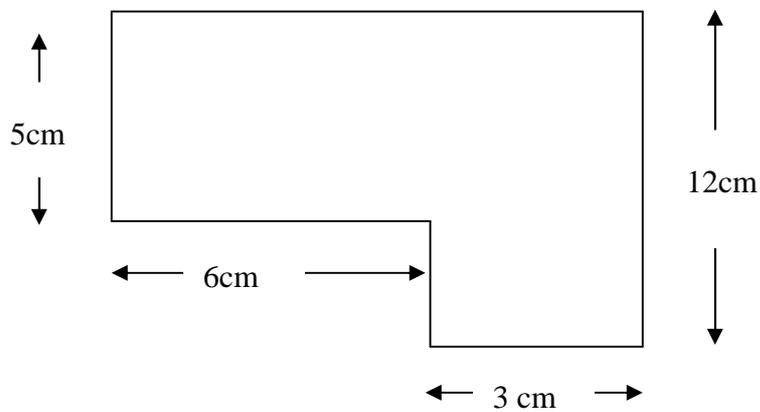
b)  $1710 \div 15$  (1)

c)  $5^2 - (8 - 2 \times 3)$  (2)

d)  $-5 + 12$  (1)

e)  $18 - 26$  (1)

2. Find the area and perimeter of the shape below:



Perimeter = (2)

Area = (2)

3. In a bag there are 5 blue counter, six yellow counters, two white counters and three red counters.

I take one counter form the bag without looking

What is the probability that it is

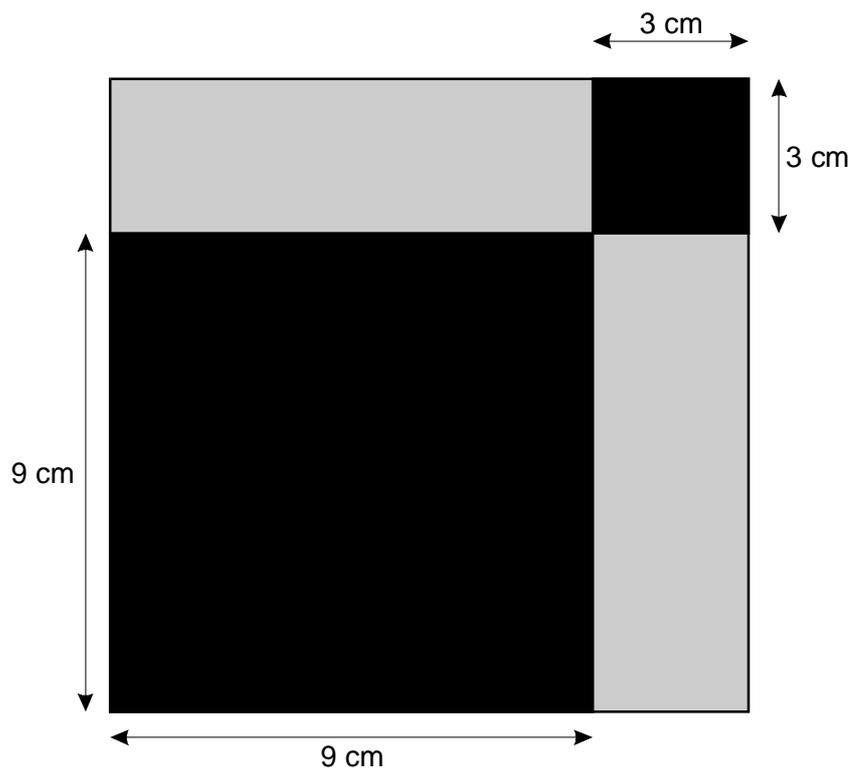
a) yellow? (1)

b) red or blue? (1)

c) black ? (1)

4. a)  $\frac{2}{3} - \frac{1}{2}$  (2)
- b)  $3\frac{2}{5} + 1\frac{1}{6}$  (2)
- c)  $\frac{4}{7} \times 1\frac{4}{5}$  (2)
- d)  $\frac{6}{11} \div \frac{2}{3}$  (2)

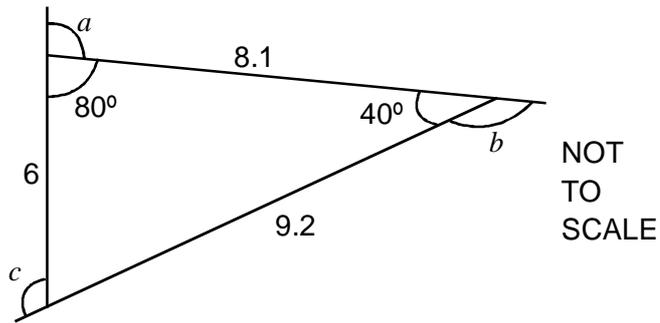
5. Two parts of this square design are shaded black.  
Two parts are shaded grey.



Show that the ratio of black to grey is 5 : 3 (3)

6. Sharon is drawing shapes on her computer.

(a) She wants to draw this triangle. She needs to know angles  $a$ ,  $b$  and  $c$ .



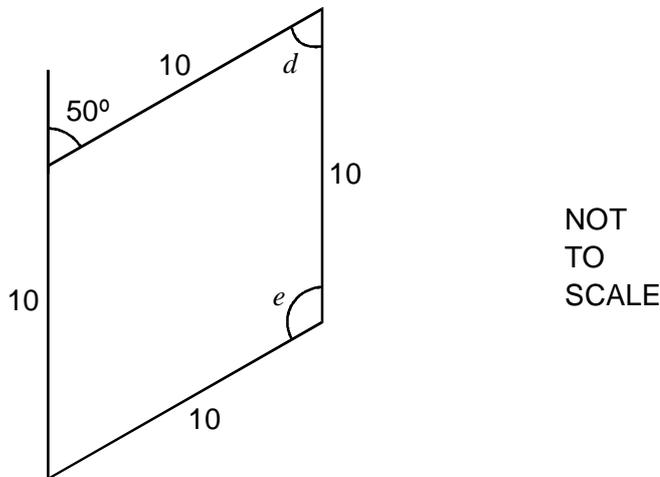
Calculate angles  $a$ ,  $b$  and  $c$ .

$a = \dots\dots\dots^\circ$  (1)

$b = \dots\dots\dots^\circ$  (1)

$c = \dots\dots\dots^\circ$  (1)

(b) Sharon draws a rhombus:



Calculate angles  $d$  and  $e$ .

$d = \dots\dots\dots^\circ$  (1)

$e = \dots\dots\dots^\circ$  (1)

7. Convert the following into the units shown

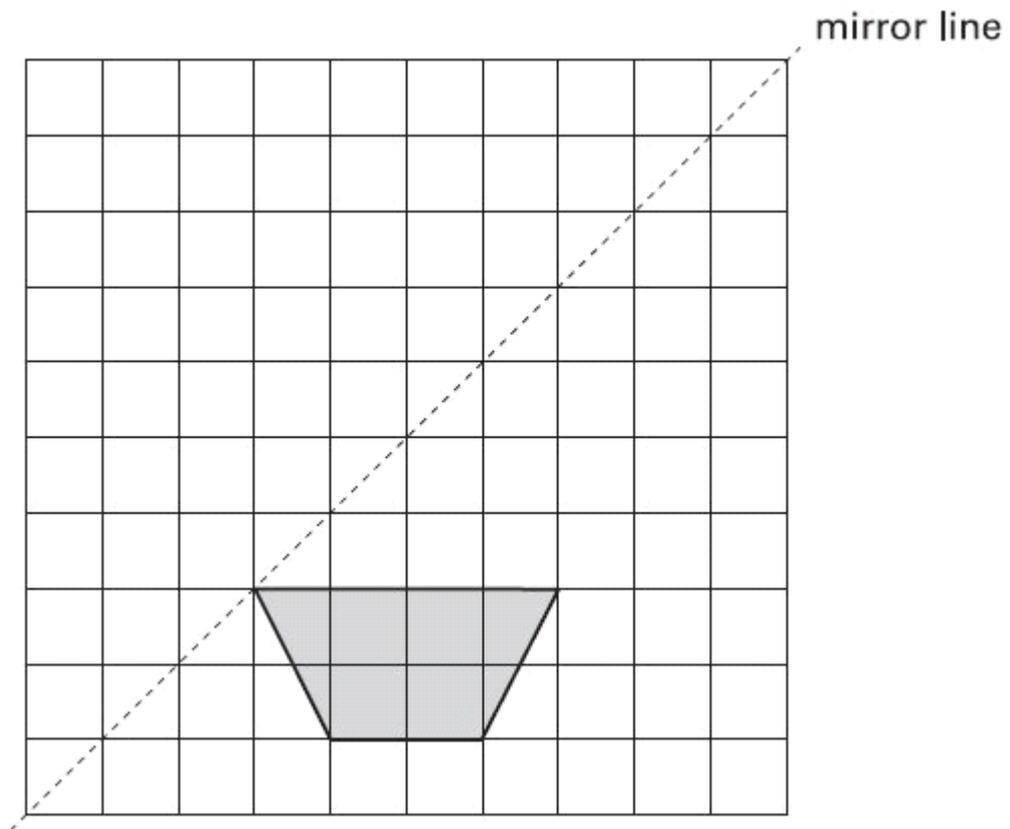
a)  $2 \text{ km} = \underline{\hspace{2cm}} \text{ m}$  (1)

b)  $150 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$  (1)

c)  $1.2 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$  (1)

d)  $2.5 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$  (2)

8. Draw the reflection of this shape.



9. Solve the following equation (2)

$5 + 2x = 15$  (2)

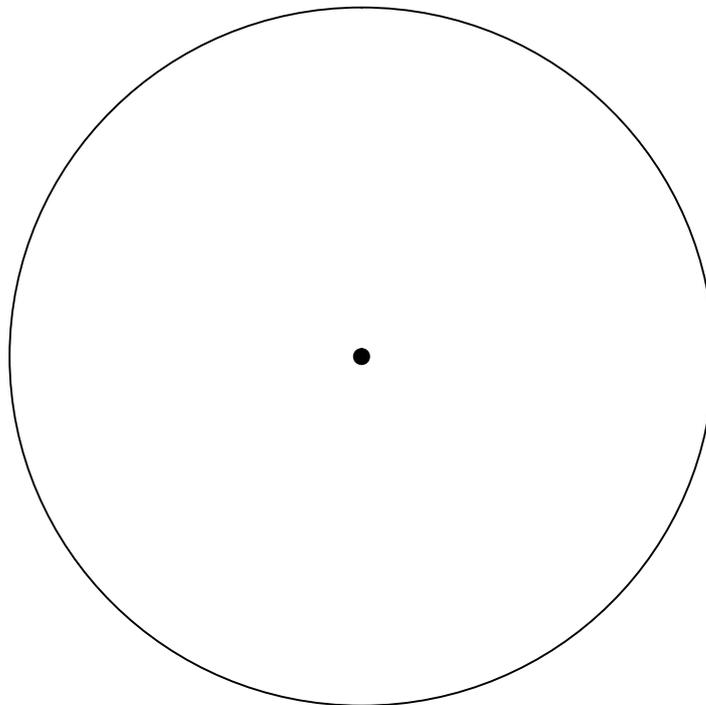
10. Continue the following sequence

1 4 9 16 \_\_\_\_\_

(3)

11. Draw a pie chart to show the following information:

<b>Favourite Colour</b>	<b>Number of people</b>
Red	4
Blue	6
Yellow	5
Green	3



(4)

**End of test**