1 Work out.

(a) $1{\cdot}5 \times 5$

(a) ..... [1]

(b) $8{\cdot}4 \div 2$

(b) ..... [1]

(c) $(1{\cdot}5 - 0{\cdot}3) \div 10$

(c) .....[2]

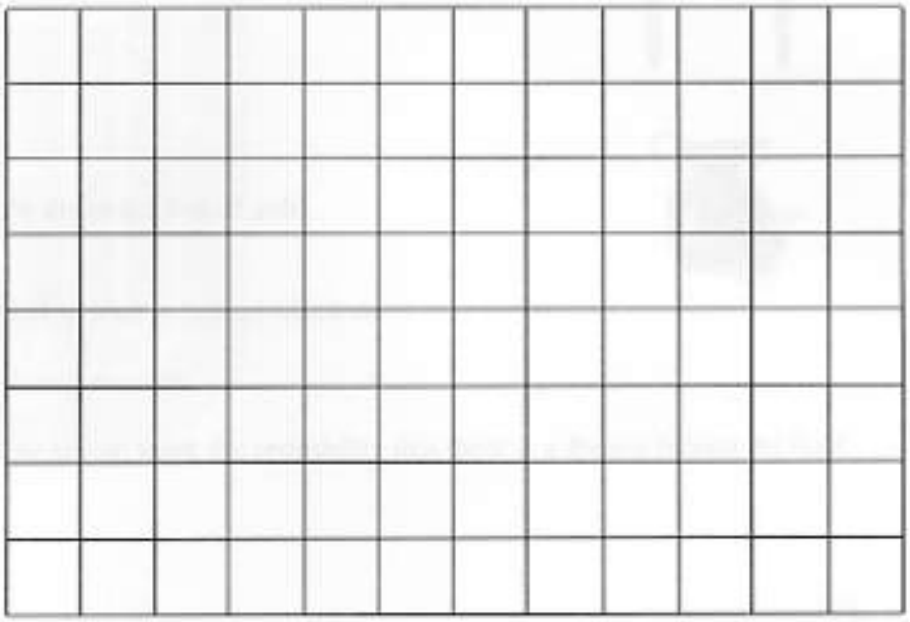
4

2 This is one of the world's largest video screens.
It is rectangular and is 45 m wide and 15 m high.

(a) Work out 45×15.

(a) ..... [2]

(b) (i) Make a scale drawing of the video screen.
Use a scale of 1 cm to 5 m.



[2]

(ii) Draw a diagonal on your scale drawing.

What is the **real** length, in metres, of the diagonal of the video screen?

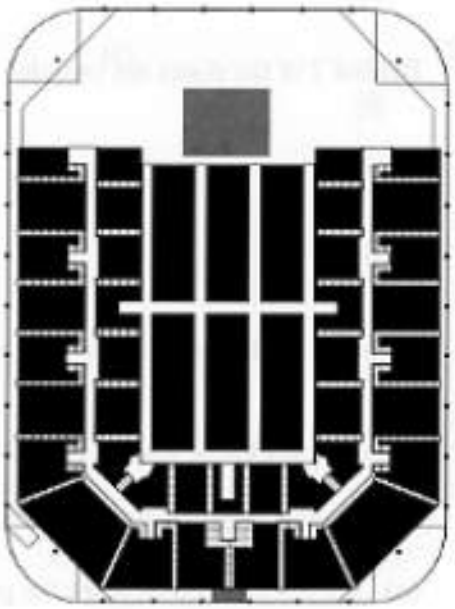
(b)(ii).....m [2]

(c) Video advertising boards can be over 30 feet tall.
Approximately how many metres
are there in 30 feet?

(c).....m [1]

7

3 The Sheffield Arena holds 12 500 people when it is full.



(a) At a concert, all 12 500 tickets are sold.
Each ticket costs £10.

How much money is this altogether?

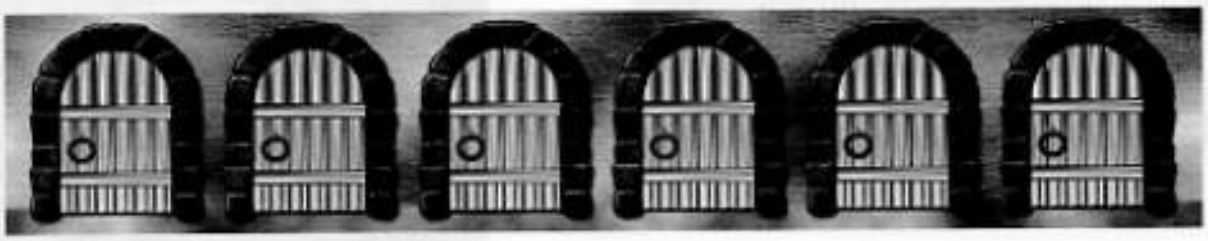
(a) £ ..... [1]

(b) How many people does the Sheffield Arena hold when it is a quarter full?

(b) ..... [2]

3

4 In a computer adventure game, Ira has to pick one of six doors to open.



There is a single item behind each door.

Behind 3 of the doors are dragons.

Behind 2 of the doors are swords.

Behind 1 of the doors is a bag of gold.

She does not know what is behind which door.

She opens a door at random.

(a) On the line below, mark the probability that there is a dragon behind the door.

[1]

(b) What is the probability that there is a bag of gold behind the door?

(b) ..... [1]

(c) What is the probability that there is a wizard behind the door?

(c) ..... [1]

3

5 (a) The Earth's surface is either sea or land.

(i) About 70% of the Earth's surface is sea.

About what percentage is land?

(a)(i) .....% [1]

(ii) The area of the Earth is 200 million square miles.
The Atlantic Ocean covers 15% of the Earth's surface.

What is 15% of 200 million square miles?

(ii) .....million square miles [2]

(b) Use this rule to change 300 square miles into square kilometres.

'To change square miles into square kilometres
multiply by five and divide the result by two.'

(b).....square kilometres [2]

(c) Pressure increases the deeper you go down into the sea.
This formula connects pressure P (atmospheres)
and the depth d (metres).

$$P = 0{\cdot}1 \times d + 1$$

What is the pressure at a depth of 10 m?

(c).....atmospheres [2]

(d) Parts of the Pacific are 11 kilometres deep.

What is this depth in metres?

(d) .....m [1]

8