Functional Skills: scales, ratio and proportion (L2)

Name _____ Date _____

1 The manager of a photo shop is looking at sales records.
Last week the orders received for the various sizes of photographs were in the ratio

15cm $\times$ 10cm : 18cm $\times$ 13cm : 23cm $\times$ 15cm = 6 : 3 : 1

A total of 410 orders was received.

How many 18cm $\times$ 13cm photographs were ordered?

A	41
B	123
C	246
D	369

2 Paul keeps a record of the time taken on various travel trips by 'plane.
On one flight Paul spent 8 minutes waiting for take-off.
His flight lasted 40 minutes.

The ratio of the waiting time to the flight is

A	1 : 6
B	6 : 1
C	1 : 5
D	5 : 1

3 The owner of a garden centre stocks a pond with 147 Koi fish and 68 goldfish.

Which of these is the closest approximate ratio of goldfish to the total number of fish in the pond?

A	3 : 1
B	1 : 3
C	4 : 3
D	3 : 4

4 A shop assistant works in a DIY store.
The assistant fills 50 display stands with cans of paint in three different colours, green, white and blue in the ratio 2 : 3 : 5.
Each stand contains only one colour of paint.

How many display stands contain cans of white paint?

A	5
B	10
C	15
D	25

5   The owner of a garage plans to put in a new inspection pit for servicing vehicles.
A scale drawing shows the length of the new inspection pit as 90 millimetres.
The scale used in the drawing is 1 : 50.

What is the length of the actual inspection pit?

A	1.8 metres
B	4.5 metres
C	9 metres
D	45 metres

6   A group of managers from Britain are visiting Australia.
Before returning home they travel from Sydney to Brisbane.
The distance on the map is 36cm.
The scale on the map is 1 : 2 000 000

What is the actual distance?

A	18km
B	72km
C	180km
D	720km

7   A game has a set of 180 counters of various colours.
The ratio of the colours is
red : green : blue : yellow = 1 : 3 : 5 : 6

How many blue counters are there?

A	5
B	12
C	36
D	60

8   Full-time workers at a factory get three hours paid holiday for each 36-hour week they work.
Part-time workers get paid holiday in the same proportion.
One part-time worker does 24 hours a week for 16 weeks.

How much paid holiday does this part-time worker get after 16 weeks?

A	18 hours
B	24 hours
C	32 hours
D	72 hours

9 Wyre Forest council plans additional recycling facilities.
A council worker marks the proposed site on a map with a scale of 1 : 25 000
On the map, the proposed site is 2 centimetres from the main road.

What is the actual distance of the proposed site from the main road?

A	125 metres
B	500 metres
C	1 250 metres
D	5 000 metres

10 A group of friends are cycling in Shropshire. One of the friends wants to visit a village that is 40 centimetres away on their map.
The scale of the map is 1 : 50 000

How far away is the actual village?

A	2.0 km
B	8.0 km
C	12.5 km
D	20.0 km

11 Last year a librarian spent £8 000 on items for loan.
He spent £1 200 on videos, £800 on CDs and the rest on books.
This year he has £10 000 to spend.
He spends on books, CDs and videos in the same proportion as last year.

How much does he spend on **books** this year?

A	£2 500
B	£5 500
C	£7 500
D	£8 000

Questions 12 and 13 are about a garden designer's work.

12 The garden designer is working on a rectangular garden that is 40 metres long and 24 metres wide. The designer makes a scale drawing of the garden.
He uses a sheet of paper 42 centimetres long and 30 centimetres wide.

Which of these scales gives the largest diagram that will fit on the paper?

A	1 : 80
B	1 : 100
C	1 : 800
D	1 : 1000

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Q13-16 need a ruler. For accurate results print with "page scaling" turned off.

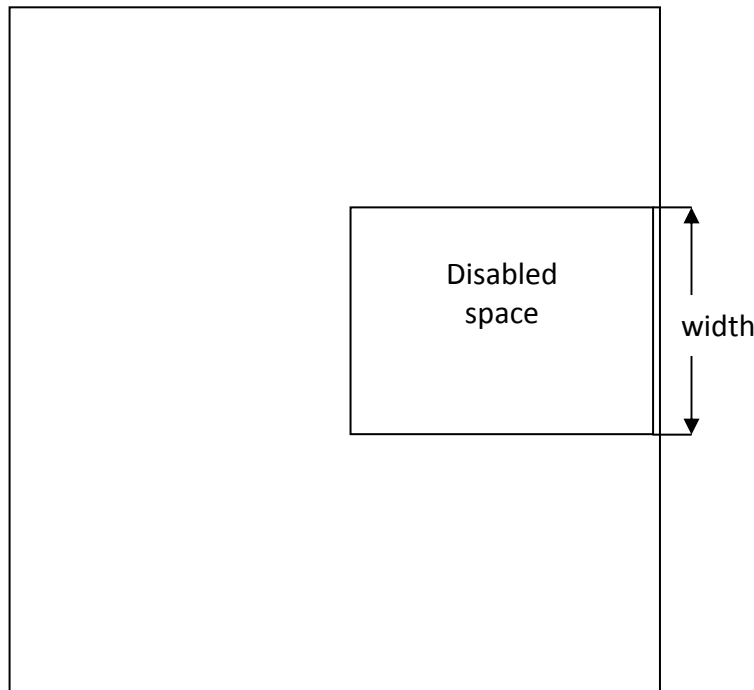**13** The designer wants a wild area in the garden. She makes a scale plan of the wild area.

Scale plan of the wild area

Scale 1 : 50

What is the length of the longest side of the actual wild area?

A	1.8m		**C**	18.0m
B	4.5m		**D**	45.0m

14 The scale diagram shows one disabled parking space in part of a supermarket car-park.
The supermarket plans to add two more disabled parking spaces to this part of the car park.
The parking spaces will be placed next to the existing one with no spaces in between them.
What will be the **total** actual width of the three disabled parking spaces?
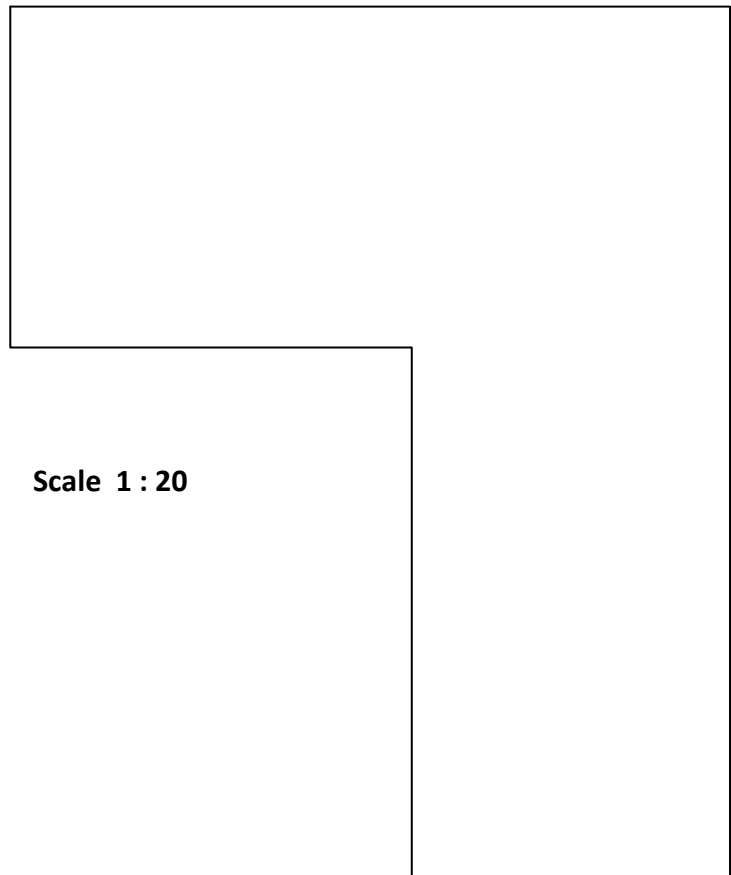
Disabled space

width

Scale 1 : 125

A	3.75m		**C**	9m
B	7.2m		**D**	11.25m

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Name _____ Date _____

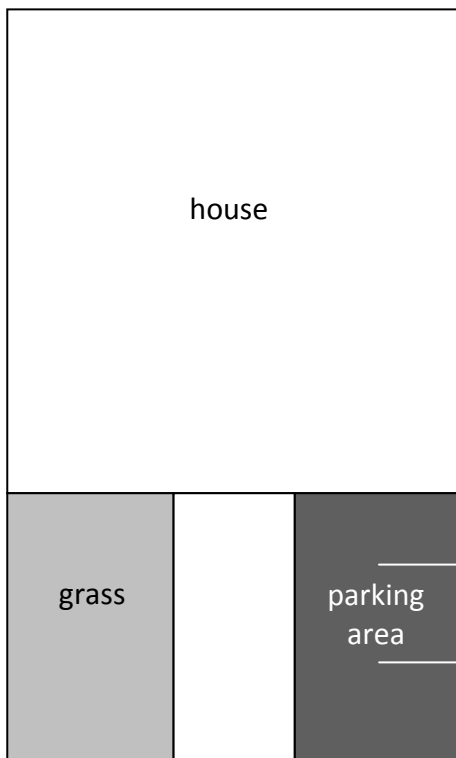**Q13-16 need a ruler. For accurate results print with "page scaling" turned off.**

15

A householder buys a three-piece suite including a corner sofa. She makes a scale drawing of the sofa to see how it will fit into the room.

Scale 1 : 20

What is the actual length of the longest side of the sofa?

A	1.16m
B	2.32m
C	5.80m
D	11.60m

16 The owner of a guest house wants to create some more parking spaces for guests' cars. Here is a scale diagram of the property.

house

grass

parking area

What are the dimensions of the actual area that is labelled 'grass' on the diagram?

A 1.8m x 1.1m
B 7.2m x 4.4m
C 9.1m x 5.6m
D 18m x 11m

Scale 1 : 200