Key skills application of number
Adult numeracy
Level 2
Test Paper

YOU NEED

- This test paper
- An answer sheet
- A ruler marked in mm and cm

You may NOT use a calculator

You may use a bilingual dictionary

You may write on this paper if it helps you to work things out

---

Do NOT open this paper until you are told to do so by the supervisor

THERE ARE 40 QUESTIONS IN THIS TEST
Total marks available: 40
Try to answer ALL the questions
YOU HAVE 1 HOUR 15 MINUTES TO FINISH THE TEST

INSTRUCTIONS

- Make sure your personal details are entered correctly on the answer sheet
- Read each question carefully
- Follow the instructions on how to complete the answer sheet
- At the end of the test, hand the test paper, your answer sheet and all notes to the supervisor

---

REMEMBER: YOU HAVE 1 HOUR 15 MINUTES TO FINISH THE TEST

INSTRUCTIONS TO CENTRES

- **This paper must not be photocopied**

Questions 1 to 6 are about a visit to a zoo.

A family visits a zoo.

1   The table shows ticket prices for the zoo.

Zoo ticket sales	
Adult	£9.50
Child 3 - 16	£7.25
Child under 3	Free
Family ticket (2 adults and 2 children)	£32.00

The family of 2 adults and 2 children buys a family ticket in advance.
There is a 15% discount for tickets bought in advance.

How much do they **save** by buying the family ticket in advance?

A   £4.80
B   £15.00
C   £17.00
D   £27.20

2   The zoo is 88 miles from their home.
The family travels to the zoo in their car at an average speed
of 39 miles per hour.

Which is the **closest** estimate of how long the journey will take?

A   2 hours 0 minutes
B   2 hours 15 minutes
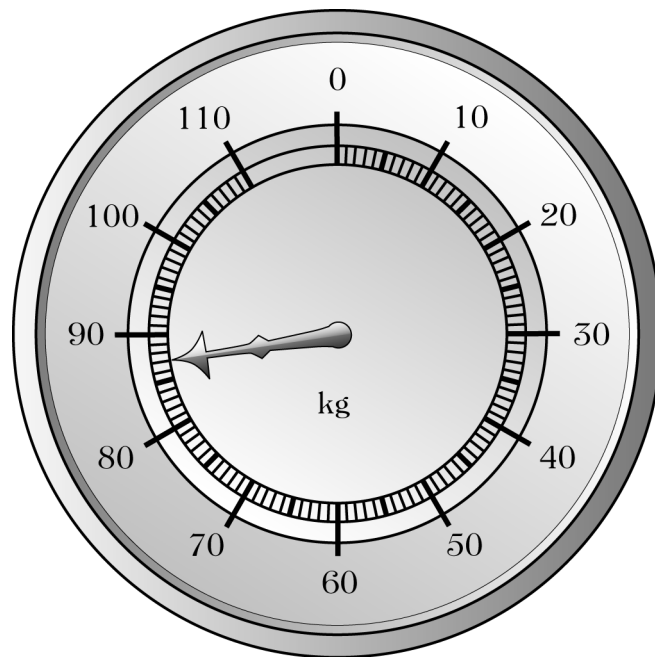C   2 hours 25 minutes
D   2 hours 30 minutes

3   A map of the zoo has a scale of 1 : 10 000
On the map, the distance from the car park to the entrance is
4.5 centimetres.

What is the actual distance in metres?

A   45m
B   400.5m
C   450m
D   45 000m

4   A zoo keeper weighs a baby elephant on special scales.
The diagram shows the dial of the scales when the elephant is on the scales.

How much does the elephant weigh, **to the nearest five kilograms**?

A   84.5kg
B   85kg
C   89kg
D   90kg

5 The sign shows the opening times for the souvenir shop.

> # Souvenir Shop Opening Times
>
> **Nov - Mar** **Mon - Fri** 10am - 12:30pm and 1:30pm - 3pm
>   **Sat - Sun** 10am - 3pm
>
> **Apr - Oct** **Mon - Fri** 10am - 12:30pm and 1:30pm - 6pm
>   **Sat - Sun** 9:30am - 6:30pm

How many hours **a week** is the shop open in June?

A   30 hours
B   35 hours
C   53 hours
D   58 hours

6 The company that owns the zoo announces its annual trading figures.

> **Profit / Loss**
> This year   £1.3 million
> Last year   −£0.5 million

What is the **change** in profit over the two years?

A   £800 000
B   £1 800 000
C   £8 000 000
D   £18 000 00

Please go on to the next page

Questions 7 to 12 are about a campsite.

7   This table shows the charges **per night** for staying at the campsite.

Camping prices per night		
Low season	**Mid season**	**High season**
2 Apr - 23 May 10 Jun - 28 Jun 2 Sept - 17 Oct	**28 Mar - 1 Apr 24 May - 30 May 29 Jun - 19 Jul**	**31 May - 9 Jun 20 Jul - 1 Sept**
Car, caravan + 2 adults	£4.80	£8.50	£10.20
Car, tent + 2 adults	£4.80	£8.50	£10.20
Child	FREE	£1.00	£2.00
Dog	60p	60p	£1.00
Awning space	£2.00	£2.00	£2.50
Electric hook-up	£1.50	£1.75	£2.00

A family of 2 adults and 3 children arrive at the campsite on July 21st and book their car and caravan in for 4 nights.
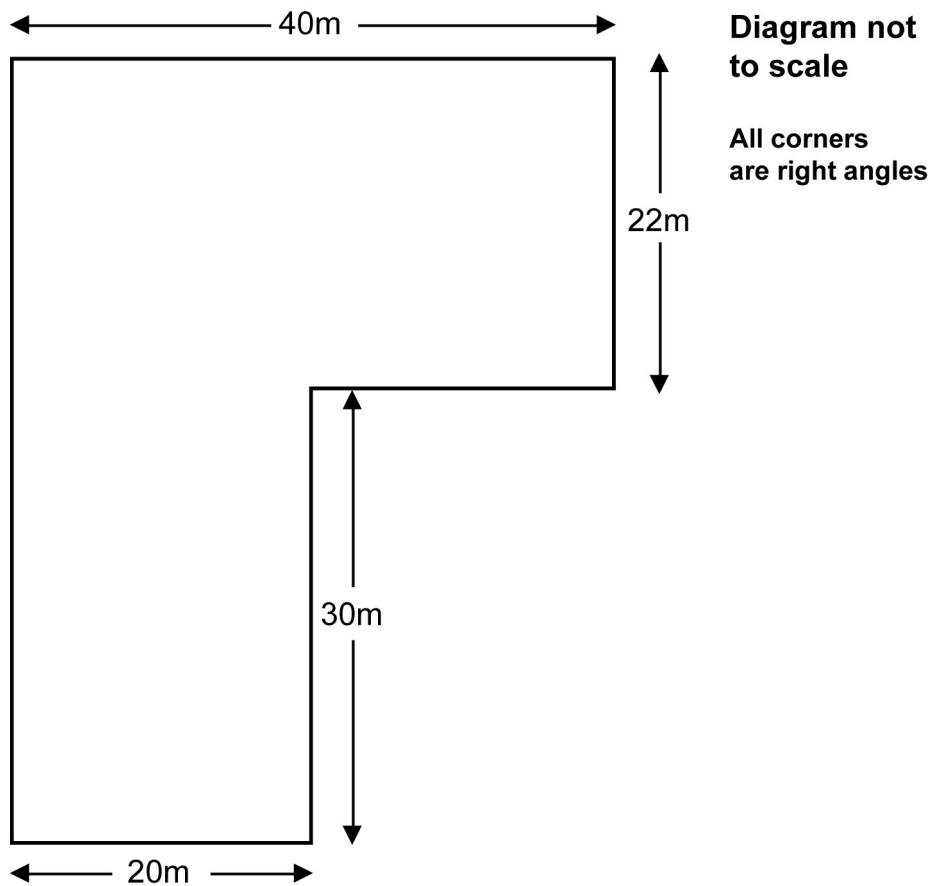They book awning space and an electric hook-up.

What is the total cost for their booking for the 4 nights?

     A   £20.70
     B   £61.00
     C   £66.80
     D   £82.80

8 The diagram shows a plan of the campsite.

The area of the campsite is

A   148m²
B   184m²
C   1 480m²
D   2 680m²

9 The charge for leaving a caravan on the campsite for six months is £330 + VAT.

VAT is $17\frac{1}{2}$%.

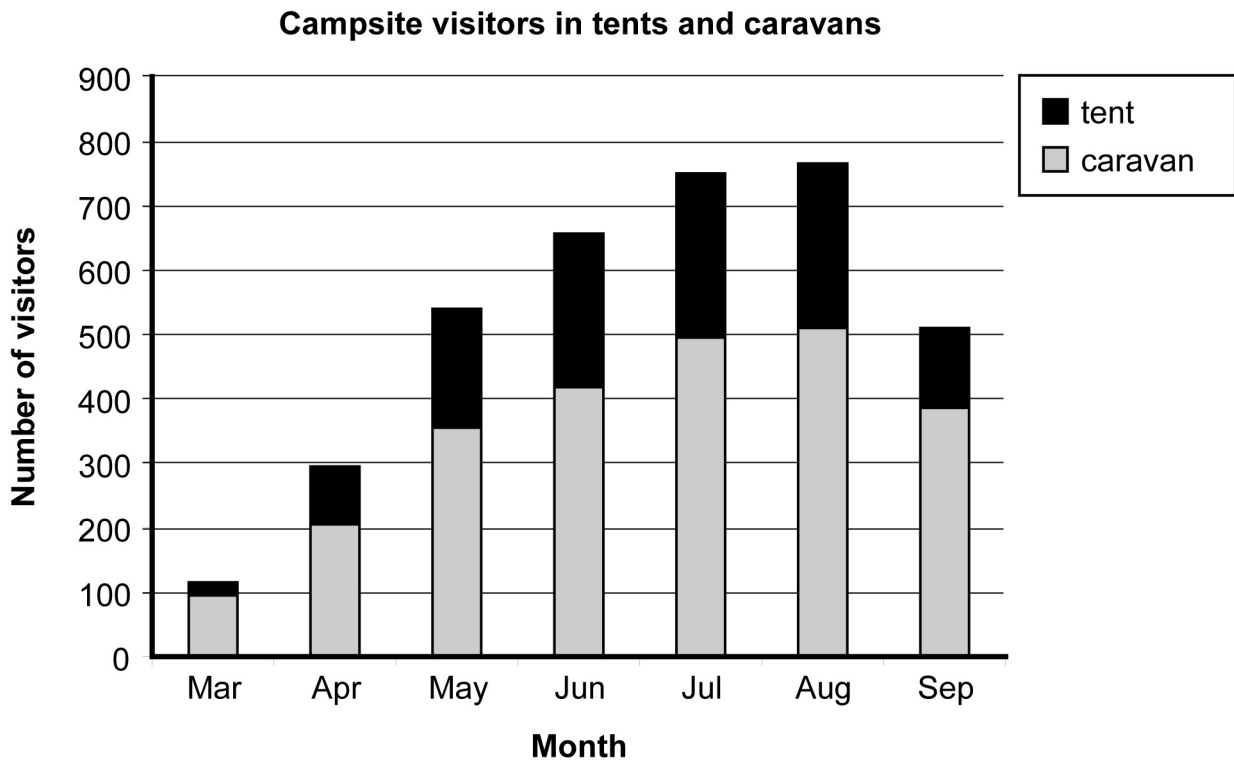What is the **total** cost of leaving a caravan on the campsite for **a year**?

A   £115.50
B   £660.00
C   £677.50
D   £775.50

10   On the campsite one weekend there are 24 children and 35 adults in tents and 36 children and 55 adults in caravans.

What percentage of all the people on the campsite are children?

A   16%
B   24%
C   40%
D   60%

11   The chart shows the number of visitors staying in tents or caravans from March to September.

Campsite visitors in tents and caravans

What was the number of visitors **in tents** in June, to the nearest 50?

A   200
B   250
C   300
D   650

12 The table below shows how long visitors stayed in 2005.

Length of stay of visitors to the campsite in 2005	
Length of stay	**Number of visitors**
1 night	210
2 to 4 nights	1008
5 to 7 nights	942
8 to 10 nights	540
11 to 14 nights	724
More than 14 nights	176
Toal number of visitors	**3600**

What percentage of visitors stayed for **more than** 10 nights in 2005?

A   25%
B   33%
C   40%
D   60%

Please go on to the next page

Questions 13 to 15 are about a community nurse.

The nurse visits patients in a country area.

13   The nurse claims travelling expenses.
She claims 40 pence for each mile she travels.
One week she claims £50.40

Which calculation checks that she has claimed for the correct number of miles?

A   number of miles = $\dfrac{50.40 \times 40}{100}$

B   number of miles = $\dfrac{50.40}{40}$

C   number of miles = 50.40 × 40

D   number of miles = $\dfrac{50.40 \times 100}{40}$

14   The nurse's salary is £860 per month.
She receives a $2\frac{1}{2}$% pay rise.

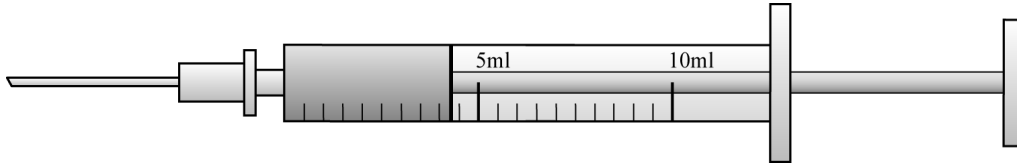What is her salary per month after the pay rise?

A   £880.50
B   £881.50
C   £887.70
D   £895.00

15 The nurse gives a patient an injection.
The diagram shows the syringe loaded with medication.

How much medication is in the syringe?

A   3.25ml
B   3.50ml
C   4.25ml
D   4.75ml

Please go on to the next page

Questions 16 to 21 are about the Winter Olympics in 2002.

In 2002 the Winter Olympics took place in Salt Lake City, USA.

16 These are the maximum and minimum temperatures during the first week.

Day	1	2	3	4	5	6	7
Max temp °C	5.6	7.8	6.9	8.4	8.3	6.4	7.5
Min temp °C	-4.4	-3.2	-4.9	-1.6	-2.2	-1.4	-0.4

What is the difference between the highest temperature and the lowest temperature over these days?

A   3.5°C
B   8.8°C
C   11.9°C
D   13.3°C

17 Salt Lake City is 4 330 feet above sea level.

1 foot is approximately 30 centimetres

Approximately, how many metres is Salt Lake City above sea level?

A   129.9m
B   144.3m
C   1 299m
D   14 433m

18   Tickets for the closing ceremony of the Olympic Games cost $885 for adults.
Children's tickets cost half the adult price.

£1 = $1.41

Which calculation gives the cost of tickets for two adults and three children in pounds?

A   885 x (2 + 3 x 0.5) ÷ 1.41
B   885 x (2 + 3 x 0.5) x 1.41
C   885 x (2 + 0.5) ÷ 1.41
D   885 x (2 + 0.5) x 1.41

Please go on to the next page

Questions 19 and 20 use the following information.

The table shows information about the ten fastest men and the ten fastest women in a downhill skiing event. It shows their countries and their times, in seconds.

Men		Women	
Country	Time (seconds)	Country	Time (seconds)
Austria	99.43	Austria	100.73
Austria	100.18	Austria	100.01
Austria	99.13	Finland	100.54
France	100.39	Finland	100.85
France	99.78	France	100.66
Norway	99.78	Germany	100.54
Norway	99.35	Norway	100.35
Sweden	100.30	Switzerland	100.00
Switzerland	100.29	Switzerland	100.08
U.S.A	100.37	Switzerland	100.84

19   What is the range of the men's times?

A   0.94 seconds
B   1.26 seconds
C   99.13 seconds
D 100.39 seconds

20   The mean time for the men is 99.9 seconds.

What is the mean time for the women?

A   100.46 seconds
B   100.54 seconds
C   100.60 seconds
D   100.78 seconds

21 The British bobsleigh team took 49 seconds to complete the 1500-metre course.

They use this formula to find their average speed

$$\text{Average speed (in metres per second)} = \frac{\textbf{Distance travelled (in metres)}}{\textbf{Time taken (in seconds)}}$$

Which of these is the closest estimate of the team's average speed?

A   0.03 metres per second
B   3 metres per second
C   30 metres per second
D   300 metres per second

Please go on to the next page

Questions 22 to 24 are about a children's party.

A father arranges a children's party for 20 children.

22   The father books an activity area followed by a tea party.
He books the activity area for one hour.
The tea party lasts for a further 40 minutes.

What proportion of the **total** children's party time is in the activity area?

A $\frac{2}{3}$

B $\frac{3}{5}$

C $\frac{2}{5}$

D $\frac{1}{3}$

23   The activity area costs £17.50 to hire.
The tea party costs £2.25 per child.
The father pays in advance and gets a 10% discount.

Which calculation gives the **total cost he pays** for the party for
20 children?

A $(17.50 + 2.25 \times 20) \times \frac{90}{100}$

B $(17.50 + 2.25) \times 20 \times \frac{90}{100}$

C $(17.50 + 2.25 \times 20) \times \frac{10}{100}$

D $(17.50 + 2.25) \times 20 \times \frac{10}{100}$

24   This is part of a recipe for eight cakes

> **Ingredients to make 8 cakes**
>
> 150g margarine
> 150g sugar
> 150g flour
> 2 eggs

The father uses ingredients in the same proportions to make 20 cakes for the children's party.

How much flour does the father use?

A   7.5g
B   60g
C   375g
D   3 000g

Please go on to the next page

Questions 25 to 27 are about buying and running a car.

25 A woman takes out a loan for £3 000 to buy a car.
The total amount she pays including interest is £3 455
She estimates the percentage of the loan she pays in interest.

Which of these is the closest estimate?

A 7%
B 13%
C 15%
D 20%

26 The woman keeps a record of how much she spends each week on petrol.

These amounts to the nearest pound are

| £40 | £18 | £36 | £10 | £18 | £20 | £28 | £25 | £15 | £22 |
| £22 | £32 | £20 | £24 | £30 | £34 | £28 | £18 | £30 | £10 |

What is the mode of these amounts?

A £18
B £22
C £24
D £30

27 The costs of running her car for a year are

Road Tax	£57.75 each six months
Insurance	£420.00 per year
Servicing and MOT	£240.00 per year
Petrol	£85.00 per month

What is the total cost of running her car **for one year**?

A   £802.75
B   £860.50
C   £1737.75
D   £1795.50

Please go on to the next page

Questions 28 to 31 are about a hairdressing training salon.

28 This is a price list for the salon

<div style="border:1px solid">

Salon Price List

	1st year student	2nd year student		1st year student	2nd year student
Shampoo and set	£1.50	£2.50	Temporary colour	£1.50	£2.50
Cut	£2.00	£2.50	Semi-permanent colour	£5.00	£6.50
Cut and blow dry	£2.50	£3.00	Permanent colour	£8.00	£9.50
Blow dry	£1.00	£1.50	Highlights	£6.00	£6.50
Perm including blow dry	£4.50	£5.50			

</div>

A client wants a cut, a semi-permanent colour and a shampoo and set by a second year student.

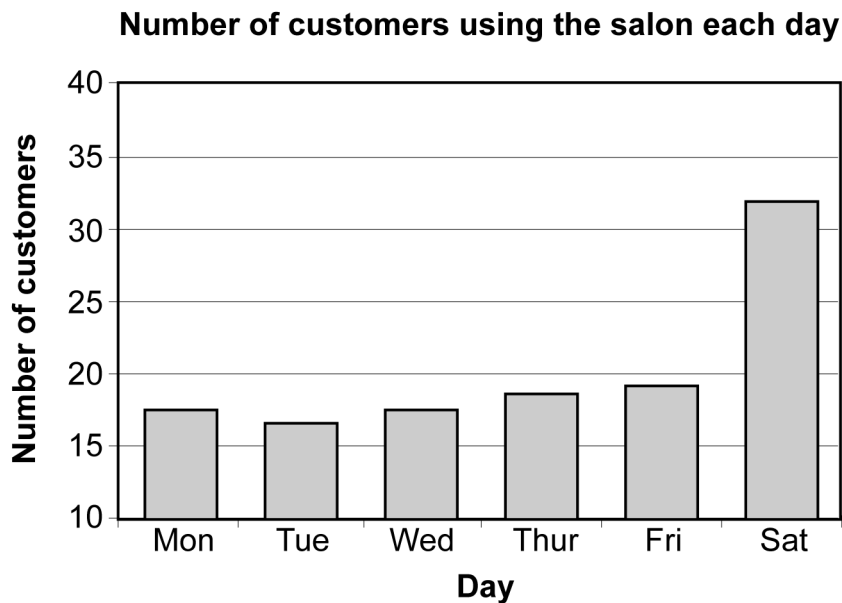How much could she save by having her hair done by a first year student?

A £1.50
B £2.00
C £2.50
D £3.00

29 The manager draws a pie chart to show the proportion of customers that have each of the 9 treatments during a week.
12 customers have a shampoo and set.

Which method gives the angle for shampoo and set on the pie chart?

A divide 360 by 12
B divide the total number of customers by 12
C divide the total number of customers by 360 then multiply the answer by 12
D divide 360 by the total number of customers and then multiply the answer by 12

30 The bar chart shows the number of customers using the salon during one week.

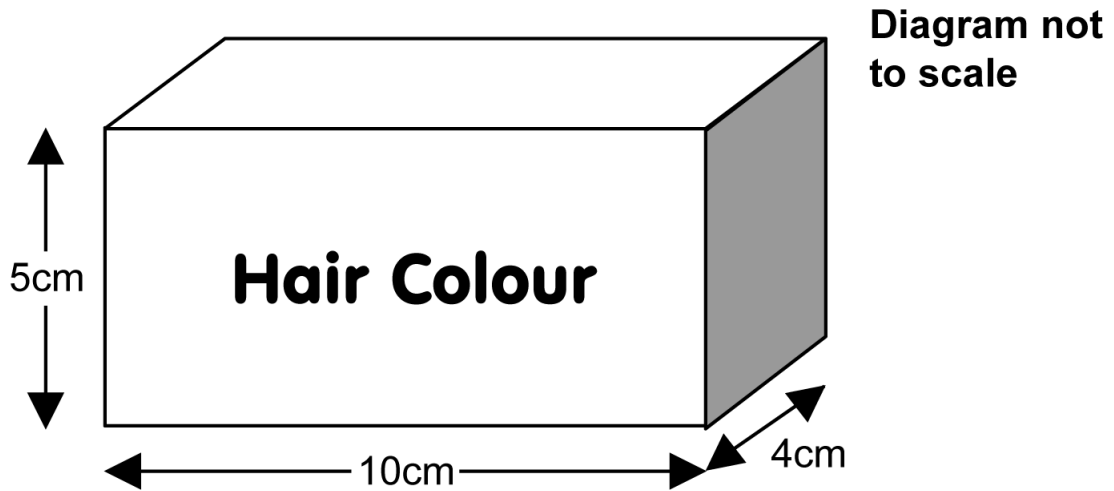**Number of customers using the salon each day**

The salon manager says that more than twice as many customers use the salon on Saturday than on any other day. She is wrong.

Why is the bar chart misleading?

A   The vertical axis does not start at zero.
B   There should not be gaps between the bars.
C   The numbers on the vertical axis do not increase evenly.
D   The days on the horizontal axis are labelled incorrectly.

31 The salon staff store boxes of hair colour in drawers.
Each drawer is 75cm wide, 22cm deep and 23cm high.

Diagram not to scale

5cm

Hair Colour

10cm

4cm

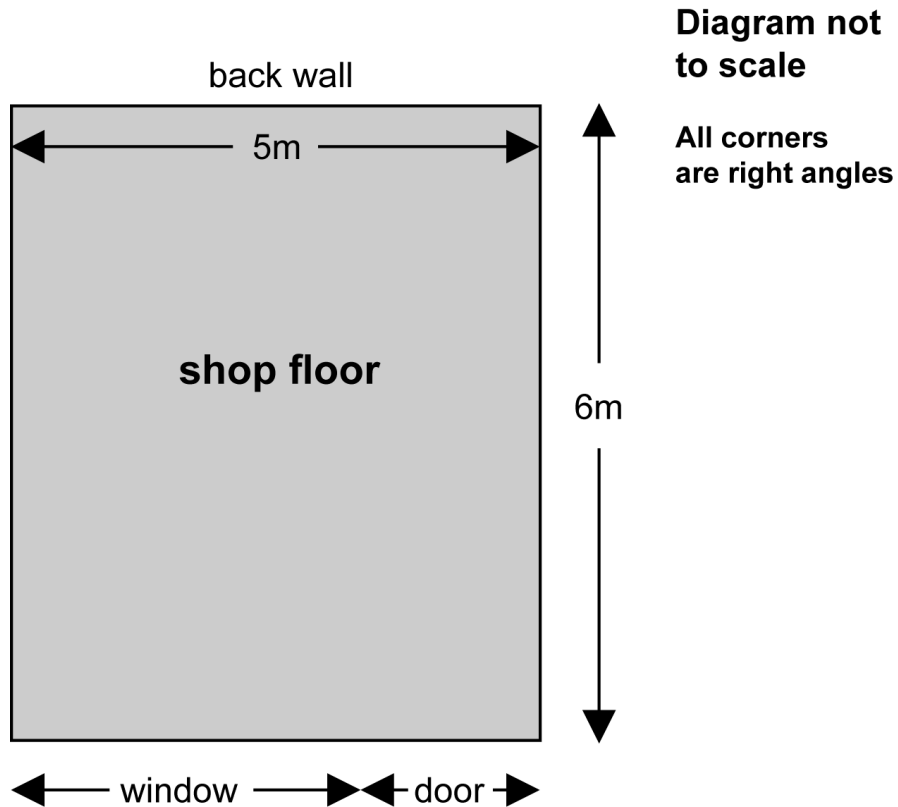The boxes are all stored this way up, with the label at the front.

What is the maximum number of boxes of hair colour that the salon staff can store in one drawer?

A   16
B   22
C   140
D   150

Please go on to the next page

Questions 32 to 34 are about a new fish and chip shop.

32   This is a sketch of the floor of the new fish and chip shop

Diagram not to scale

All corners are right angles

back wall

← 5m →

shop floor

6m

← window → ← door →

The owner paints the back wall and the 2 side walls with one coat of paint.
The height of the walls is 2.5 metres.
Each one-litre tin of paint covers 11 square metres.

How many tins of the paint does he need?

A   2
B   3
C   4
D   7

33   The owner wants to install a chip fryer.

This diagram shows the actual measurements
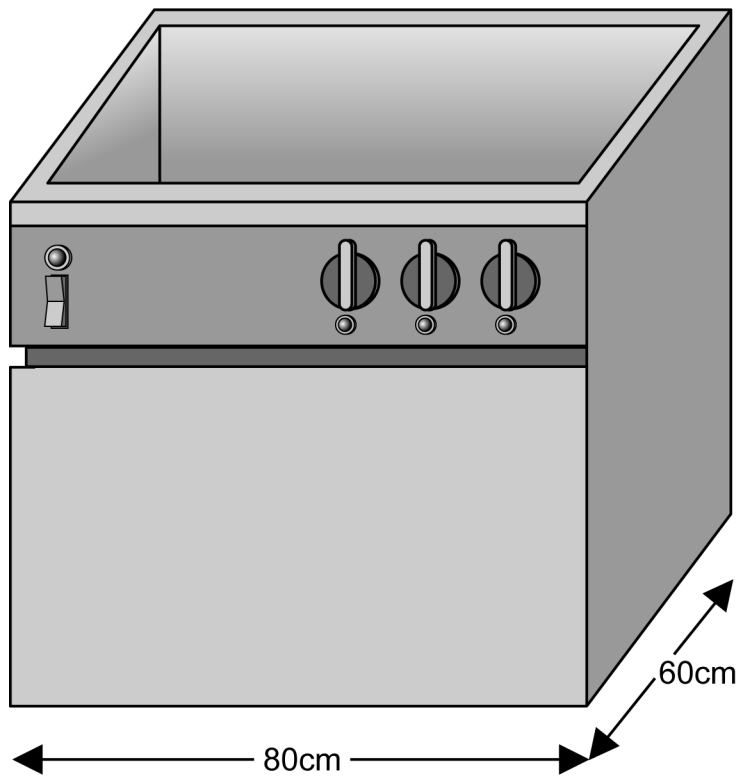
Diagram not to scale

60cm

80cm

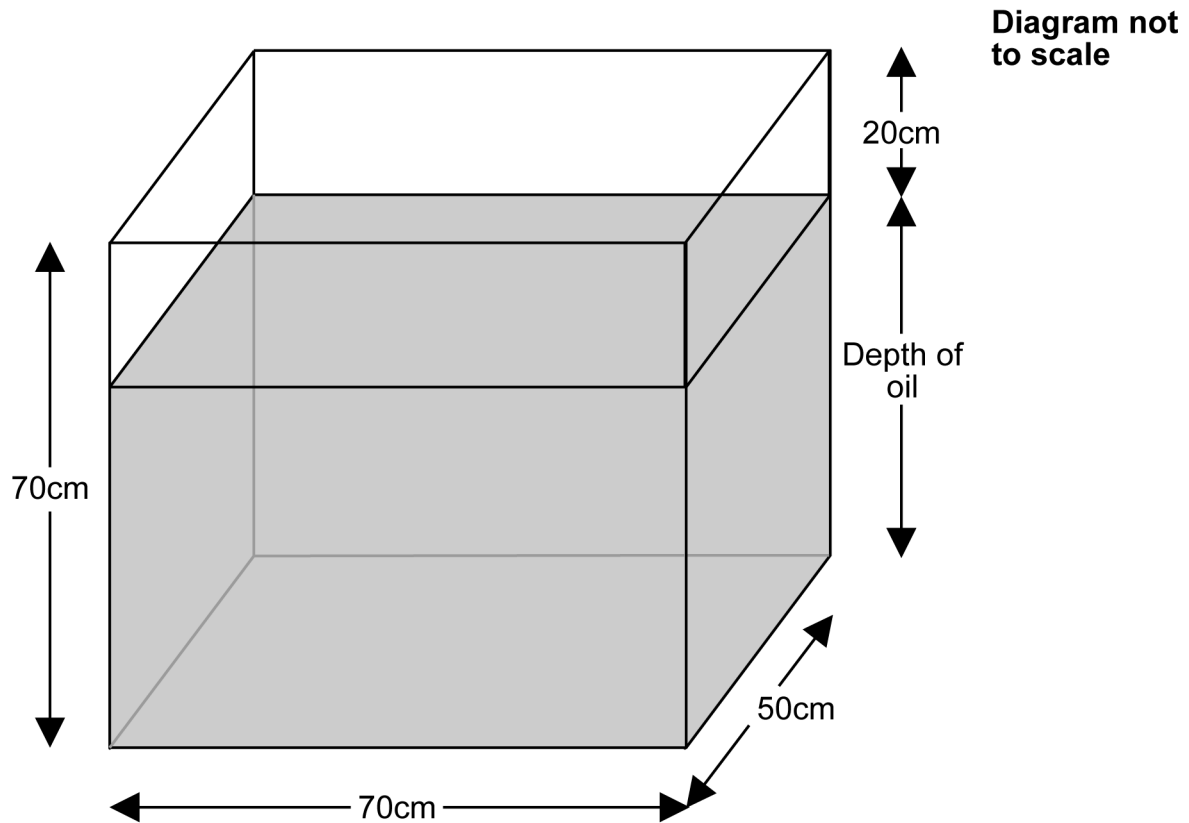The owner makes a scale plan of the base of the fryer to show how it fits in the shop.
The scale of his plan is 1 : 40

What are the dimensions of the base **on the plan**?

A   32mm x 24mm
B   20mm x 15mm
C   3.2mm x 2.4mm
D   2mm x 1.5mm

34 The owner fills the chip fryer with oil until it is 20 centimetres from the top.

Inside measurements of chip fryer

Diagram not to scale

20cm

Depth of oil

70cm

70cm

50cm

Number of litres of oil	$= \dfrac{\textbf{length of base} \times \textbf{width of base} \times \textbf{depth of oil}}{\textbf{1 000}}$

How many litres of oil does he use?

A   2.4 litres
B   6 litres
C   70 litres
D   175 litres

Please go on to the next page

Questions 35 to 40 are about a maternity hospital.

35

One week 78 babies are born in the maternity hospital.
Of these, 26 are boys.

What is the ratio of boys to girls?

A   1 : 2
B   2 : 1
C   1 : 3
D   3 : 1

36

A baby girl measures 50.8 centimetres in length.

```
1 inch = 2.54 centimetres
```

What is the length of the baby in inches?

A   12.9 inches
B   20 inches
C   53.34 inches
D   129 inches

37

The baby girl weighs 3.267 kilograms.

What is her weight, accurate to the nearest 10 grams?

A   3.20kg
B   3.26kg
C   3.27kg
D   3.30kg

38 The lightest boy weighs 2.12kg and the heaviest boy weighs 4.51kg.
The lightest girl weighs 1.83kg and the heaviest girl weighs 4.26kg.
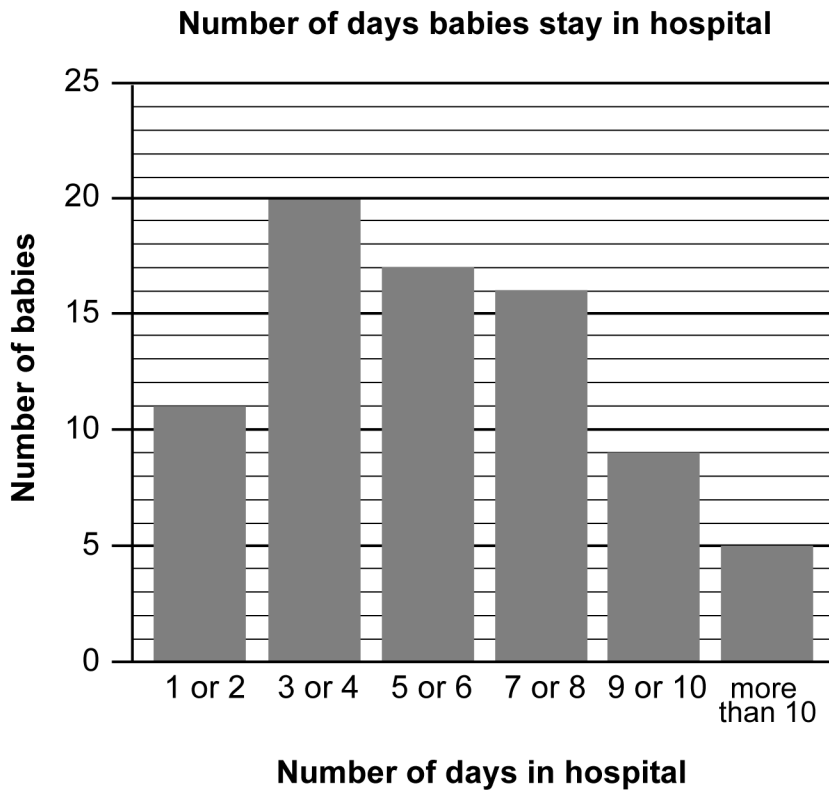
Which of the following statements is true?

A   The range of girls' weights is greater than the range of boys' weights.
B   The range of boys' weights is greater than the range of girls' weights.
C   The ranges of girls' and boys' weights are the same.
D   There is not enough information to compare the ranges of boys' and girls' weights.

39 Longer babies tend to be heavier than shorter babies.
The hospital staff want to see if babies at the hospital follow this trend.

Which of these forms of presentation will show whether babies at the hospital follow this trend?

A   pie chart
B   pictogram
C   bar chart
D   scatter graph

40 The bar chart shows the number of days each baby stayed in the hospital.

Number of days babies stay in hospital

How many babies stayed in the hospital for **more than** six days?

A   17
B   30
C   47
D   48

End of test

Key skills application of number │ Adult numeracy │ Level 2 │ URN:493

BLANK PAGE

BLANK PAGE