EXEMPLAR TEST

QCA

| **LEVEL** | **PAPER** |
| Key Skills – Level 2 | Application of Number |

WHAT YOU NEED: **THERE ARE 40 QUESTIONS IN THIS PAPER (TOTAL MARKS 40)**

- this question booklet;
- an answer sheet;
- an HB pencil;
- a ruler and an eraser.

ADDITIONAL AIDS

- calculators may not be used;
- bilingual dictionaries may be used.

TIME ALLOWED – 1 HOUR

To complete this activity successfully you will need to:

- read the information supplied in this question booklet;

- use an HB pencil to complete all parts of the answer sheet.

Instructions to candidates

- Write your personal details in the spaces provided on the answer sheet.

- Do not open this question booklet until you are told to do so by the supervisor.

- Read each question carefully and attempt all questions.

- At the end of the assessment hand your question booklet, your answer sheet and all notes to the supervisor.

Use the information below for questions 1 and 2.

This year, a company makes profits of £552 374.

1

In its report the company rounds this figure to the nearest £100 000. The rounded figure is

     A £500 000

     B £550 000

     C £552 000

     D £600 000

2

Next year the company expects to make 10% more profit than this year. Rounding to the nearest £100 000 what is its expected profit for next year?
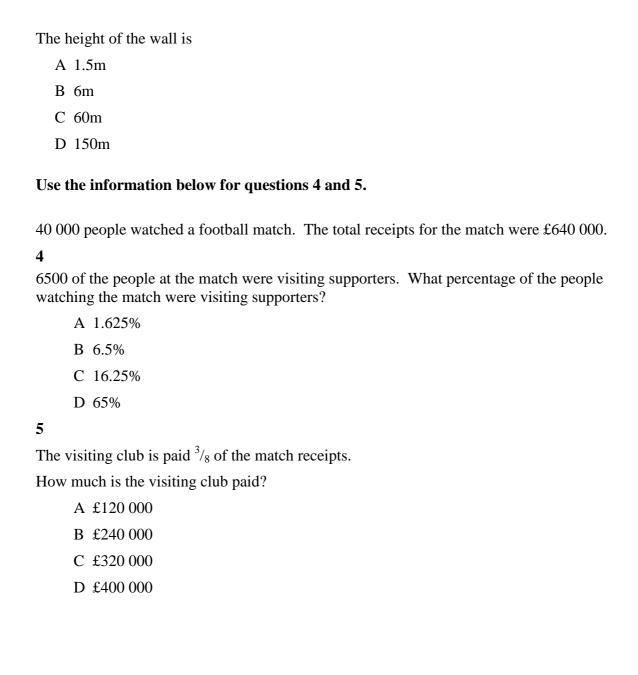
     A £600 000

     B £607 000

     C £610 000

     D £660 000

3

This is a scale drawing of a wall.

The scale is 1:150

The height of the wall is

A 1.5m

B 6m

C 60m

D 150m

Use the information below for questions 4 and 5.

40 000 people watched a football match. The total receipts for the match were £640 000.

4

6500 of the people at the match were visiting supporters. What percentage of the people watching the match were visiting supporters?

A 1.625%

B 6.5%

C 16.25%

D 65%

5

The visiting club is paid $^3/_8$ of the match receipts.

How much is the visiting club paid?

A £120 000

B £240 000

C £320 000

D £400 000

Use the information below for questions 6 and 7

Wayfleet Hotel had 15 329 guests in 1998

6

5 748 of the guests used the hotel swimming pool. What is the approximate ratio of those using the pool to those not using the pool?

    A 3:8

    B 3:5

    C 5:8

    D 5:3

7

1 904 guests occupied single rooms. About what percentage of guests occupied single rooms?

    A 6%

    B 12%

    C 25%

    D 125%

8

Another hotel has 56 single rooms and 58 double rooms. What is the best approximation to the maximum number of possible occupancies in one year?
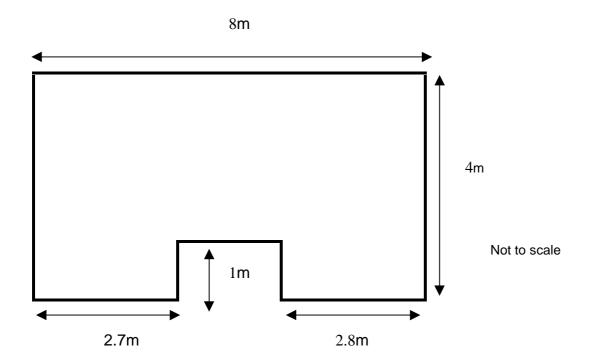
    A 70 000

    B 80 000

    C 90 000

    D 10 000

9

This is the floor plan of a room.

8m

4m

Not to scale

1m

2.7m

2.8m

What is the area of the floor?

   A 24.5m^2

   B 25.5m^2

   C 29.5m^2

   D 31.5m^2

Use the information below for questions 10-11.

Here are the scores that 20 people get for a test.

8,	7,	5,	6,	9
4,	5,	7,	2,	1
6,	1,	9,	2,	1
5,	9,	7,	3,	8

To pass the test a person needs to score 8 or more.

10

What percentage of people fail to pass by 1 mark?

     A 3%

     B 15%

     C 25%

     D 75%

11

What is the ratio of the number of people who pass to the number of people who do not?

     A 1:4

     B 2:5

     C 3:2

     D 1:3

12
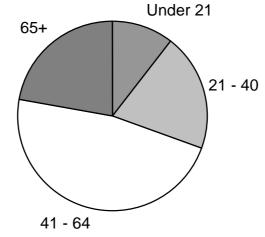
Cathy buys 13 T-shirts that cost £9.89 each.

She estimates the total cost in four ways. Each way gives a different result. Which of the estimates below is closest to the total cost?

    A £130.00

    B £128.70

    C £127.60

    D £123.50

Use the information below for questions 13-15.

The chart shows the ages of the voters in a local election.

Ages of Voters in a Local Election

13

The pie chart shows that

    A most of the voters are in the 21-40 age group

    B the smallest group of voters is the 65+ age group

    C most of the voters are in the under 21 age group

    D about half the voters are in the 41-64 age group

14

The pie chart shows that the percentage of voters in the 21-40 age group is approximately

    A 20%

    B 50%

    C 70%

    D 90%

15

54 000 people voted in the local election. 4 500 of these where under 21. What is the angle of the pie chart for this group?
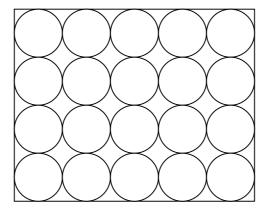
    A 30°

    B 35°

    C 40°

    D 45°

Use the information below for questions 16, 17 and 18

The diagram below shows a carton, seen from the top, full of tins of shoe polish.

The carton contains 5 layers of tins.

Each tin is 8 centimetres in diameter and 2 centimetres high.

16

How many tins of shoe polish are in 55 cartons?

     A 825

     B 1055

     C 1100

     D 5500

17

The tins fit tightly into the carton.

What are the measurements of the inside of the carton?

     A 8cm by 8cm by 2cm

     B 8cm by 8cm by 10cm

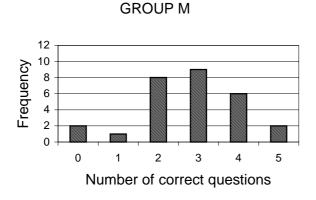   C 40cm by 32cm by 2cm

     D 40cm by 32cm by 10cm

18

The shoe polish sells for 39p per tin or 3 tins for £1.What is the least amount of money that could be collected from the sale of one carton of shoe polish tins?
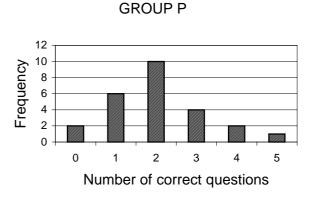
     A £33.00

     B £33.39

     C £39.00

     D £390.00

Using the information below for questions 19 and 20.

The bar charts show the results of two different groups of students, group M and group P, doing the same five test questions.

Test results for Groups M and P

GROUP M   GROUP P

19

Which of the following statements is true?

      A The results of both groups are equally good

      B Group M's results are better than those of group P

      C Group P's results are better than those of group M

      D You cannot say which group did better
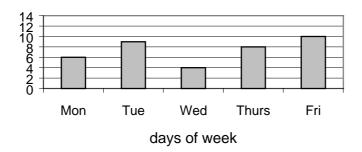
20

Which one of these statements is correct?

      A The median result for group M is 2.5

      B The median result for group P is 3

      C The median result for group M is higher than the median for group P

      D The median result for group P is higher than the median for group M

21

The chart shows the number of late trains each day at Dunbridge for the weekdays 13 –17 December 1999.

Number of late trains at Dunbridge
13 - 17 December 1999

days of week

A correct label for the vertical scale is

    A Number of weekday trains per day

    B Number of late trains per week

    C Number of late trains per day

    D Number of late trains

22

The average speed for a journey of 300 miles was 50 miles per hour (mph). The average speed for the first 150 miles was 60 mph. What was the average speed for the second 150 miles of the journey?

A   between 55 and 60 mph

B   between 50 and 55 mph

C   between 45 and 50 mph

D   between 40 and 45 mph

Use the information below for questions 23, 24 and 25.

A firm has 20 employees. The annual salaries for the employees are shown in the table below.

Chairperson	£43 000	Machinist 2	£17 000
Director	£38 000	Machinist 3	£17 000
Manager 1	£26 000	Engineer 1	£17 000
Manager 2	£26 000	Engineer 2	£16 000
Skilled worker 1	£22 000	Secretary 1	£14 000
Skilled worker 2	£21 000	Secretary 2	£14 000
Skilled worker 3	£21 000	Office junior 1	£8 000
Skilled worker 4	£21 000	Office junior 2	£7 000
Skilled worker 5	£21 000	Office junior 3	£7 000
Machinist 1	£18 000	Office junior 4	£7 000

23

The percentage of the firm's employees earning less than £15 000 is

    A 6%

    B 15%

    C 30%

    D 70%

24

The mode of the employees' salaries is

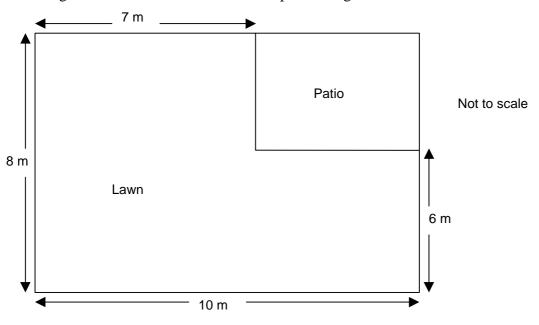   A £17 500

    B £19 000

    C £21 000

    D £25 000

25

The range of the salaries is

    A £7 000

B £17 500

C £36 000

D £43 000

Use the information below for questions 26-27.

The diagram below shows the lawn and a patio in a garden.

26

Which of these is a correct way to find the area of the lawn?

A (6 x 8) + (7 x 10)

B (7 x 8) + (3 x 2)

C (8 x 7) + (6 x 3)

D (10 x 6) + (8 x 7)

27

The area of the patio is

A 4 m^2

B 6 m^2

C 9 m^2

D 18 m^2

Use the information below for questions 28 and 29.

The list shows the amounts of sodium in different brands of bottled water.

Brand of bottled water	sodium mg/litre	Brand of bottled water	Sodium mg/litre
Aqua Pura	22	Caledonian	7
Glenburn Spring	8	San Pellegrino	less than 2
Ballygowan	17	Strathglen Spring	7
Brecon Carreg	5	Spa	4
Buxton	24	Hildon	8
Campsie Spring	7	Mountain	6
Chiltern Hills	9	Tipperary	27
Highland Spring	5	Scottish	7
Malvern	17	Devon Hills	18
Perrier	9	Gleneagles	32
Glencairn	9	Strathmore	50
Stretton Hills	13	Ty Nant	34
Brooks	8		

Mary makes the table below to show the numbers of brands in five categories.

Amount of sodium	Number of brands
very low sodium (less than 7 mg/litre)	5
low sodium (7 to 10 mg/litre)	8
medium sodium (11 to 14 mg/litre)	1
high sodium (15 to 18 mg/litre)	3
very high sodium (more than 18 mg/litre)	6

28

Mary checks her table.

The total number of brands in her table is

     A one too few

     B two too few

     C one too many

     D two too many

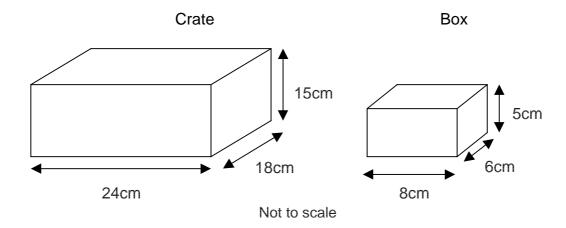**29**

Which of these categories does **not** contain the correct number of brands?

A Low sodium (7 to 10 mg/litre)

B Medium sodium (11 to 14 mg/litre)

C High sodium (15 to 18 mg/litre)

D Very high sodium (more than 18 mg/litre)

30

The crate below is to be packed with boxes.

The boxes are all the same size as each other.

Crate

Box

15cm

5cm

18cm

6cm

24cm

8cm

Not to scale

What is the largest number of boxes that can fit inside the crate?

A 19 boxes

B 27 boxes

C 33 boxes

D 57 boxes

Use the information below for questions 31, 32 and 33.

The table below shows the heights of 40 children measured to the nearest 0.1 cm.

Height in cm	130.0 – 139.9	140.0 – 149.9	150.0 – 159.9	160.0 – 169.9	170.0 – 179.9	180.0 – 189.9
No. of children	1	7	10	12	8	2

31

How many children are less than 160 cm tall?

    A 8

    B 18

    C 30

    D 40

32

20% of the children are

    A less than 150 cm tall

    B between 150 cm and 170 cm tall

    C at least 170 cm tall

    D at least 180 cm tall

33

What fraction of the children are over 160 cm tall?

    A $3/_{10}$

    B $9/_{20}$

    C $^1/_2$

    D $^{11}/_{20}$

Use the information below for questions 34, 35 and 36.

The cost of hiring a floor sander is shown below.

FLOOR SANDER HIRE
£12 basic charge plus £18 per day

34

What is the cost of hiring the floor sander for 4 days?

  A £60

  B £72

  C £84

  D £120

35

A customer has £120. What is the longest time she can hire the sander for?

  A 3 days

  B 5 days

  C 6 days

  D 7 days

36

Which formula shows the cost of hiring the sander for n days?

  A cost in £ $= 12 + 18 + n$

  B cost in £ $= 12 + 18n$

  C cost in £ $= 12n + 18$

  D cost in £ $= 12$

37

The unit of currency in Germany is the Mark.

If the exchange rate is £1 = 2.5 Marks. How much is 200 Marks worth in pounds?

    A £70
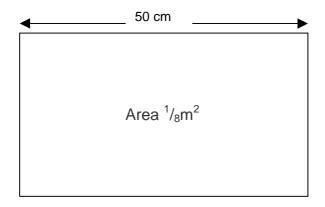
    B £80

    C £100

    D £500

38

On a particular day, the exchange rate between pounds and dollars is £1 = $1.59.

Which of these calculations show the value in pounds of $200.

    A $1.59 \div 200$

    B 1.59×200

    C $200 \div 1.59$

    D 200×1.59

Use the information below for questions 39 and 40.

The diagram shows a piece of card. Its area has to be $\frac{1}{8}m^2$. It is 50 cm long.

50 cm

Area $\frac{1}{8}m^2$

39

What must the width of the card be?

    A $6\frac{1}{4}$ cm

    B 16 cm

    C 25 cm

    D 40 cm

40

The card is cut from a sheet whose area is one square metre.

The sheet weighs 180 grams.

What is the weight of the card?

    A 2.20g

    B 14.4g

    C 22.0g

    D 22.5g