Mock Paper B – Maths

Read the instructions carefully.

1. This is a multiple-choice paper in which you have to circle the answer you have chosen.

2. You will have **50 minutes to answer 50 questions.**

3. You may find some of the questions difficult. If you cannot do a question, do not waste time on it, but go on to the next questions. If you are not sure of an answer, choose the one you think is best.

4. Work as quickly and as carefully as you can.

5. Make sure you can see a clock.

6. Allocate enough time to check your answers at the end.

1. What is the value of 3 in 3,285,421?

   A. 3,000,000   B. 300   C. 30,000   D. 300,000   E. 3,000

2. What is the highest common factor (HCF) of 30 and 40?

   A. 20   B. 10   C. 40   D. 30   E. 15

3. Which shows ⁴²/₅ as a mixed number?

   A. 8 ⅕   B. 7 ⅖   C. 8 ⅗   D. 8 ⅖   E. 9 ⅗

4. Which of these fractions has the lowest value?

   A. ⅞   B. ¾   C. ¼   D. ½   E. ⅛

5. 32 pints = ? gallons

   A. 16 gallons   B. 2 gallons   C. 8 gallons   D. 3.2 gallons   E. 4 gallons

6. Using the conversion table, convert the distance between the two houses from miles to km.

miles	kilometres
5	8

40 miles

   A. 64 km   B. 60 km   C. 40 km   D. 25 km   E. 15 km

7. What is 1.3 l – 1 l?

   A. 3l   B. 300l   C. 300ml   D. 30ml   E. 3ml

8. Round this number to the nearest whole number.

   2.812

   A. 2   B. 3   C. 4   D. 2.8   E. 5

9. If a coin is thrown 56 times, how many times is it likely to land on heads?

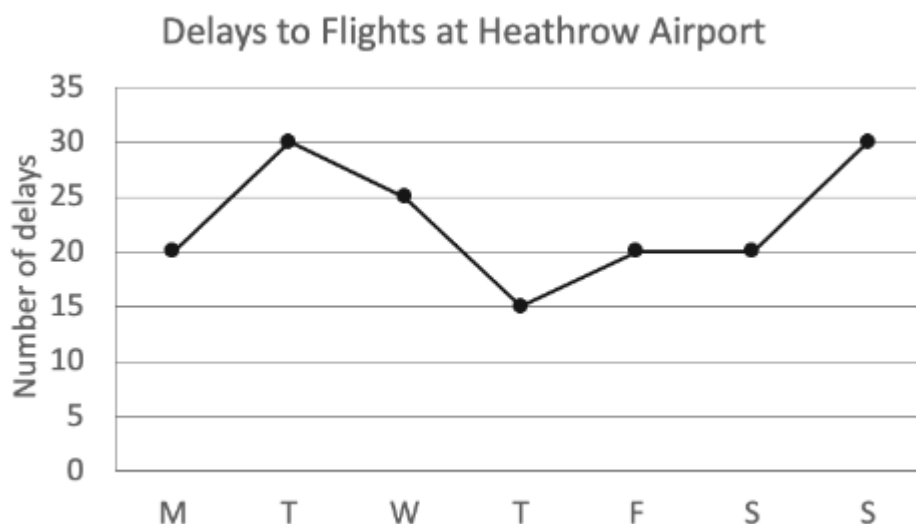   A. 28   B. 56   C. 30   D. 14   E. 20

10. Write ⁴⁵⁄₇₅ as a percentage.

A. 60%   B. 75%   C. 45%   D. 50%   E. 30%

11. Write 28% as a fraction in its simplest form.

A. ¼   B. ⁷⁄₂₅   C. ¹⁴⁄₁₀₀   D. ⅜   E. ½

12. What is the missing prime factor of 40?

2 × 2 × 2 × ?

A. 4   B. 1   C. 3   D. 6   E. 5

13. There are 400 books in the school library and 160 of them are non-fiction. What percentage are fiction?

A. 60%   B. 40%   C. 30%   D. 70%   E. 50%

14. This tally chart shows the results of a poll in a magazine for dog lovers. It asked people to vote for their favourite breed.

What is the difference in the number of votes between Labrador and Alsatian?

Type of Dog	Number of people
Spaniel	卌 卌 卌 卌 卌 卌 I
Poodle	III
Labrador	卌 卌 卌 卌 卌 卌 卌 卌 II
Alsatian	卌
Yorkshire Terrier	卌 IIII

A. 24   B. 37   C. 9   D. 52   E. 18

15. Here are the number of shells Darcey collected from the beach over a week. What is the median?

8, 9, 13, 8, 12, 13, 12

A. 11   B. 9   C. 12   D. 8   E. 10

16. What is the lowest common multiple of 6 and 9?

A. 18   B. 6   C. 3   D. 36   E. 54

17. Multiply 0.2 by 24.

A. 4.8   B. 4.08   C. 0.048   D. 0.48   E. 48

18. At a GP clinic two doctors can see eight patients in an hour. How many patients can four doctors see in 30 minutes?

A. 8   B. 10   C. 12   D. 6   E. 16

19. Paul bought a book from the book shop, which cost £6.23. How much change did Paul get back if he paid with a £20 note?

A. £13.07   B. £12.77   C. £6.17   D. £13.77   E. £10.00

20. A box contains 2 red pens, 3 blue pens and 4 black pens. A pen is picked at random. What is the probability of picking a black pen?

A. 0   B. ⅔   C. 4/9   D. 7/9   E. 1

21. Ottoline threw a ball into the air three times. The first time she threw the ball 1.798 metres into the air. The second time she threw it 2.005 metres in the air and then the third time she threw it 1.998 metres into the air. What was the difference between her highest and lowest throw?

A. 0.270 metres   B. 0.203 metres   C. 0.204 metres   D. 0.206 metres   E. 0.207 metres

22. Find 28% of 200.

A. 55   B. 56   C. 57   D. 58   E. 59

23. What is the difference between the highest and lowest number of delays?

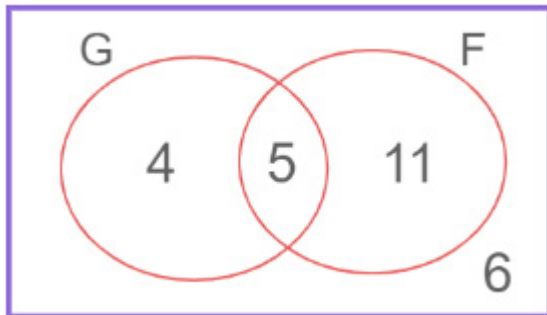Delays to Flights at Heathrow Airport

A. 20   B. 15   C. 30   D. 25   E. 45

24. Some adults were asked which countries they have visited.
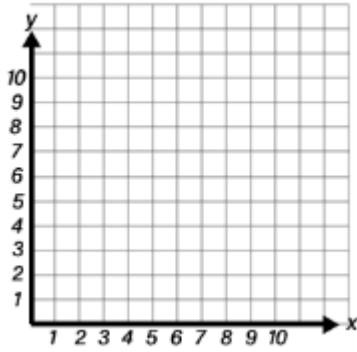
Here is a Venn diagram showing the situation. How many adults visited France?
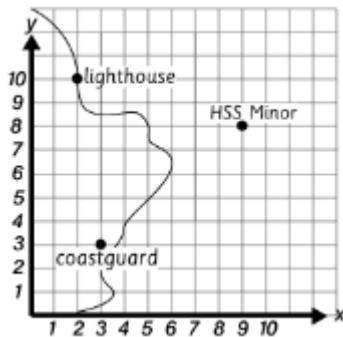
G = Germany and F = France

A. 11   B. 4   C. 16   D. 7   E.9

25. A class of thirty students take a test. If five sixths of the class pass, how many students need to retake the test?

A. 30   B. 10   C. 15   D. 6   E. 5

26. If Fiona gets a full book of stickers for good behaviour from school, she will get a treat from her Mum. There are eight pages in a book and 20 stickers per page. If Fiona can earn a maximum of four stickers a day at school, what is the shortest amount of days at school before she can get her treat?

A. 20 days   B. 160 days   C. 100 days   D. 40 days   E. 80 days

27. The ratio of blue and black pens in the pen box is 3:4. There are 60 blue pens. How many black pens are there?

A. 60   B. 80   C. 20   D. 30   E. 40

28. Find the number that continues the sequence in the most sensible way.

222, ?, 112, 72, 42, 22

A. 162   B. 152   C. 142   D. 132   E. 122

29. Simplify the following expression:

2c + a - c

A. 2c + a   B. c + a   C. 2c + c   D. c   E. a

30. Which is the numeral for five million, four hundred thousand and one?

A. 5,004,001   B. 5,400,001   C. 540,001   D. 5,000,401   E. 54,001

31. If a rectangle was drawn on the graph below and three of its vertices were (3,4), (8,4) and (3,7). What are the coordinates of the missing vertex?

A. (8, 8)   B. (8, 7)   C. (3, 8)   D. (4, 8)   E. (8, 3)

32. What are the coordinates of the HSS Minor?

A. (8, 8)   B. (9, 8)   C. (10, 8)   D. (8, 9)   E. (9, 7)

33. Find the number that continues the series in the most sensible way.

13, 15, 18, 22, 27, ?

A. 29   B. 32   C. 33   D. 30   E. 28

34. a = 4, b = 2 and c = 8

3a + 5b − c = ?

A. 14   B. 10   C. 16   D. 18   E. 12

35. A plastic container holds 1.7 litres and a bottle holds 1150ml. What is the difference in the capacity of the plastic container and the bottle?

A. 500ml   B. 850ml   C. 650ml   D. 550ml   E. 600ml

36. One small cube has a volume of 3cm³. If a larger cube is made up of 16 of the smaller cubes, what will the volume of the larger cube be?
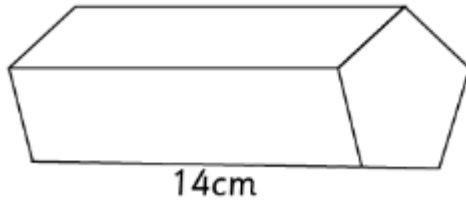
A. 62cm³   B. 48cm³   C. 68cm³   D. 54cm³   E. 36cm³

37. Find the number that continues the sequence in the most sensible way.

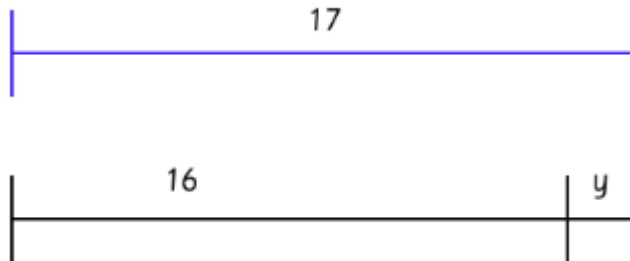**2, 4, 12, 48, 240, ?**

A. 960   B. 1440   C. 620   D. 790   E. 480

38. If this pentagonal prism has a length of 14cm and its pentagonal face has an area of 25cm², what is its volume?

14cm

A. 250cm³   B. 270cm³   C. 290cm³   D. 320cm³   E. 350cm³

39. Write an equation that says that the length of the blue line on top is the same as the length of the black line at the bottom.
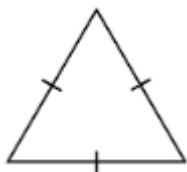
17

16   y

A. 17 + 16 = y   B. 17 = 16 + y   C. y + 17 = 16   D. 17 - y = 6   E. 6 + 1 = 7

40. Which of the following letters has no lines of symmetry?

A. T   B. Q   C. X   D. O   E. Y

41. What is the order of rotational symmetry of this shape?

A. 0   B. 5   C. 3   D. 1   E. 2

42. My dad was born in MCMLXX. What year was he born?

A. 2000   B. 1970   C. 1963   D. 1982   E. 1980

43. Which of these is the next triangular number?

1, 3, 6, 10, 15, 21, ?

A. 26   B. 28   C. 36   D. 40   E. 45

44. What is the next square number?

25, 36, 49, ?

A. 64   B. 62   C. 58   D. 56   E. 52

45. What is the mean of this set of numbers?

22, 43, 17, 10, 9, 35, 11

A. 21   B. 15   C. 18   D. 10   E. 26

46. Suzie is 12 and Angela is 8. Their aunt gives them £60 to be shared in the ratio of their ages. How much will Angela get?

A. £8   B. £20   C. £36   D.£12   E. £24

47. Rachel drew a picture of the school playground using a scale of 1cm to 10m. On the plan the playground is 4cm long. What is the real length of the playground?

A. 20m   B. 40cm   C. 4m   D. 40m   E. 100cm

48. Here are the scores of a contest:

Contest Scores									
10,	11,	11,	12,	13,	14,	14,	14,	14,	15

What is the mode of these scores?

A. 14   B. 15   C. 12   D. 10   E. 11

49. Here is a coach timetable.

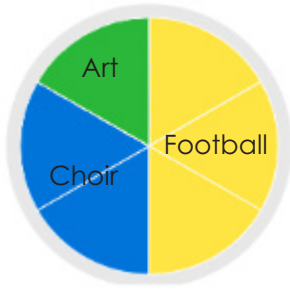| Explore Travel – coach timetable			
London	07:30	10:30	13:30
Chelmsford	09:02	12:05	15:06
Ipswich	10:18	13:20	16:25
Norwich	12:05	15:08	18:15

Sid is planning to catch the 13:30 coach from London to Ipswich.

The coach arrived in Ipswich 25 minutes late and it took Sid 12 minutes to reach his final destination.

At what time did Sid arrive? Give your answer using the 24-hour clock.

A. 17:20   B. 18:15   C. 15:45   D. 17:02   E. 16:25

50. This pie chart shows the number of children who go to different after-school clubs on Mondays. Green is Art, Blue is Choir and Yellow is Football.

There are 24 children who go to Football club.

How many children go to Art club on Monday?

A. 9   B. 2   C. 4   D. 8   E. 6

End of Test