11+ ENTRANCE EXAMINATION

Sample Paper

MATHEMATICS

45 minutes

You may not use a calculator.

1. Calculate the answers to the following

a)
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     423
 +   237
 _____
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_____

b)
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     354
 −    97
 _____
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_____

c)
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      6 7
 ×    7 3
 _____
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_____

d)   4122 ÷ 6

2. Add twelve thousand and sixty seven and nine thousand one hundred and four. Give your answer in words.

3. A jumbo jet can take 324 passengers.

   a) How many passengers could be transported by a fleet of 28 jumbo jets?

   b) What is the answer to the nearest 100?

4.   Convert   a) 60% to a fraction in its simplest form

      b) 0.12 to a fraction in its simplest form

5.   Arrange the following numbers in order from smallest to largest

      9.7, 9.63, 9.099, 9.199, 9.20001

6.   Marie bought seven cinema tickets for £58.10. How much was each ticket?

7.   Ruth wants to buy three bracelets at £1.29 each and a birthday card for £1.85.

      a) How much does this cost her altogether?

      b) She only has £3.20. How much does she need to borrow to buy these things?
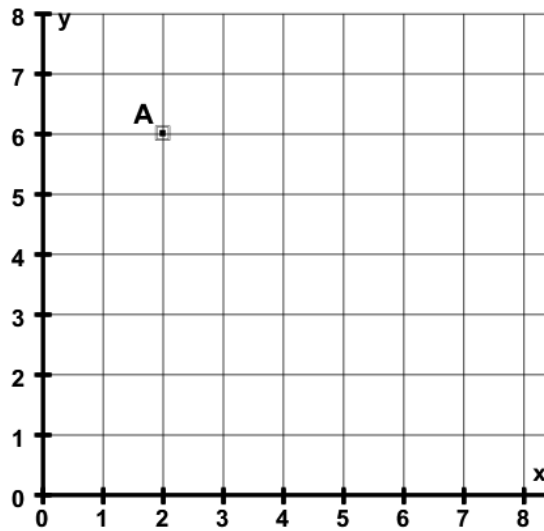
8.   Write down

      a) A prime number between 20 and 30

      b) A squared number between 30 and 40

      c) A multiple of 17 between 50 and 60

9.

a) Write down the coordinates of point A

b) Plot the points B (2, 4) and C (6, 5). Join points A, B and C to form a triangle.
c) What type of triangle is ABC ?

d) What is the area of this triangle?

10.   Write down the next two numbers in the following sequences?

a)   8   4   2   1   ____   ____

b)   23   17   11   5   ____   ____

11.   Eleanor is taking part in a triathlon. This starts with a swimming stage followed

by a cycling stage and finishes with a running stage.

a) She starts the swimming stage at 12:45 pm. If she takes 79 minutes to complete this stage, at what time does she start the cycling stage.

b) If she starts the running stage at 4:38 pm work out how long she took in minutes on the cycling stage.

c) If she took 107 minutes on the running stage work out how long she took to complete the whole triathlon. Give your answer in hours and minutes.

12. In a box of sweets there are 7 toffees for every 12 chocolates. If there are 72 chocolates how many toffees are there?

13. David is 15 stone 11. Andrew is 275 pounds. If there are 14 pounds in 1 stone what is the difference between their weights? Give your answer in pounds.
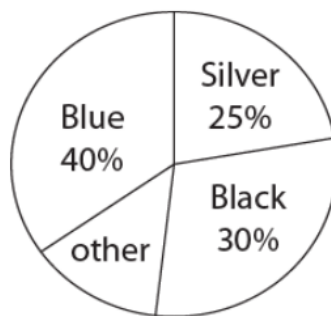
14. Jennifer is assembling a wardrobe. The measurements for the 3 sections are given in different units. The first section is 30cm wide; the second section is 1.5m wide and the third section 150mm wide. How wide is the whole wardrobe? Give your answer in cm.

15. Kevin gets paid £500 for each match he plays plus £100 for each goal he scores. In a season he plays 20 games and averages two goals per game. How much does he earn over the season?

16. Helen spends half her money on a dress. She then spends one-third of what is left on shoes.

    a) If she started with £120 how much does she have left?

    b) What is this as a fraction of what she started with?

17) The base of Sarah's fish tank is 60cm long and 20 cm wide.

    a) What is the area of the base?

    b) If the height of the fish tank is 30 cm what is the maximum volume of water it could hold?

    c) Sarah only has 24 litres of water. How deep can she fill the tank? (Each litre of water occupies 1000cm^3).

18. Calculate the following showing your working out for each one. **Simplify** your answer where possible.

    a) $\dfrac{6}{7} \times \dfrac{5}{9}$

b) $3\frac{2}{5} + 2\frac{3}{4}$

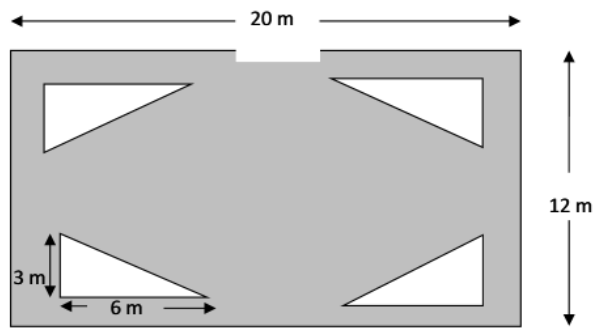**c)** $1\frac{2}{3} \div \frac{10}{21}$

19.

The pie chart shows the proportions of different colours of cars in a school carpark. There were 36 black cars. How many blue cars were there?

20. Verity thinks of a number. She multiplies it by 7 then adds 8.
    If the resulting number is 71 what number did she think of in the first place?

21. Multiply 6.4 by 2.7

22.   A triangle has area $24cm^2$. It's **base** is 6cm. What is its height?

23.   Geraldo's rectangular garden has 4 equally sized triangular-shaped flower beds. The remaining area, shown in grey in the picture below, is covered in grass.

a) What is the area of one flower-bed?

b) What is the area of the whole garden?

c) What is the area of the grass?

24.   The mean of three positive whole numbers is 6. The mode is 5. Find the three numbers.

END OF PAPER