2020

Deft–books

11+ Mathematics

For Grammar and Independent School Exams

Multiple – Choice
Practice Paper

Read the following instructions carefully:

1. Do not turn over or open this test until instructed to do so.
2. This paper contains different multiple-choice questions.
3. Rough working should be done on a separate sheet of paper.
4. Mark your answers on the provided answer sheet.
5. Draw a firm line through the rectangle, as shown. In the case of a mistake, erase the marked answer completely and mark your new answer on the sheet.
6. Work out the questions carefully and quickly. If you are unable to answer a question, go on to the next question.
7. If you are unsure of an answer, choose the most appropriate answer.
8. You will have 45 minutes to complete the test, which contains 50 questions.
9. The use of calculators is NOT allowed.

1. Calculate the missing number:

1334 + 259 = _____ - 172

A 1675 **B** 1865 **C** 1780 **D** 1765 **E** 1861

2. Work out

3.12 - 2.56 =

A 0.46 **B** 0.56 **C** 0.44 **D** 0.58 **E** 0.54

3. Which of the following improper fraction is the same as the mixed number:

$5\frac{3}{7}$

A $\frac{34}{7}$ **B** $\frac{35}{7}$ **C** $\frac{36}{7}$ **D** $\frac{37}{7}$ **E** $\frac{38}{7}$

4. Work out

(6 X 55 X 15) ÷ 33 =

A 150 **B** 125 **C** 175 **D** 145 **E** 160

5. Calculate

45% of 240 =

A 112 **B** 98 **C** 100 **D** 108 **E** 110

6. Work out

0.48 ÷ 0.04 =

A 0.24 **B** 0.3 **C** 12 **D** 0.004 **E** 0.12

7. The difference of two numbers, P and Q, is 8. If the smaller number is increased by 3 but the greater number remains same, what will be the new difference?

A 5 **B** 8 **C** 22 **D** 14 **E** 11

8. Last year, 275 of the 500 pupils at Tanbridge School were boys. This year, there are 540 pupils in the school but the proportion of the boys is the same as last year.

How many boys are at the school this year?

A 295 **B** 302 **C** 297 **D** 305 **E** 290

9. Thirty-eight thousand, two hundred and eighty-seven people went to a cricket match.

What is this number rounded to the nearest hundred?

A 39000 **B** 38300 **C** 38200 **D** 38290 **E** 38280

10. Work out

$(10001)^2 - (10000)^2 =$

Hint: $(a)^2 - (b)^2 = (a + b)(a - b)$

A 20100 **B** 20101 **C** 20001 **D** 20010 **E** 21000

11. The spinner shown below is spun.

What is the probability that the needle lands on red?

A $\frac{1}{16}$ **B** $\frac{1}{12}$ **C** $\frac{1}{2}$ **D** $\frac{1}{8}$ **E** $\frac{1}{4}$

12. Which of the following shapes could only go in the region labelled X?

	At least two angles equal	All angles different
At least two sides equal		
All sides different lengths		X

A Rhombus **B** Kite **C** Regular pentagon **D** Scalene triangle **E** Isosceles triangle

13. A shopkeeper buys 15 cricket kits for £ 4650. if he sells them at a profit of 15%.

Find the selling price of 1 kit.

A 357 **B** 350 **C** 372 **D** 375 **E** 410

14. A class of 50 students is divided into two groups. One group has eight less pupils than the other.

How many pupils are there in the large group?

A 29 **B** 32 **C** 35 **D** 30 **E** 27

15. Fill in the missing value.

1430 mm^3 = _____ cm^3

A 0.0143 cm^3 **B** 0.143 cm^3 **C** 1.43 mm^3 **D** 14.3 cm^3 **E** 1.43 cm^3

16. Which of the following numbers will be place in the middle, when arranging in ascending order?

11%, $\frac{3}{20}$, 0.7, $\frac{5}{6}$, 0.17

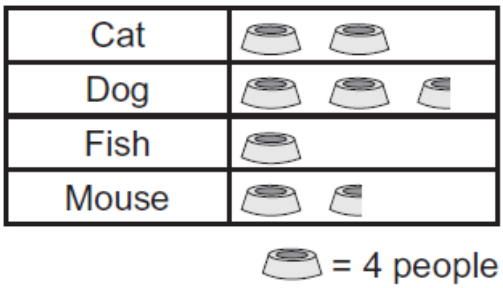
A 0.7 **B** 11% **C** 0.17 **D** $\frac{3}{20}$ **E** $\frac{5}{6}$

17. Alice walks from her home to the bus stop at a constant speed of 5 km per hour. The bus stop is 1.5 km away from her home.

If Alice starts at 8 am from her home, what time will she reach the bus stop?

A 08:15 AM **B** 8:18 AM **C** 8:05AM **D** 8:25 AM **E** 8:20 AM

18. Suzanne asked her classmates what their favourite pet was. She recorded her results in the pictogram.



How many more people liked dogs than fish?

A 10 **B** 8 **C** 4 **D** 6 **E** 12

19. A cricketer has a mean score of 58 runs in nine innings.

Find out how many runs are to be scored by him in the tenth innings to raise the mean score to 61.

A 93 **B** 100 **C** 90 **D** 85 **E** 88

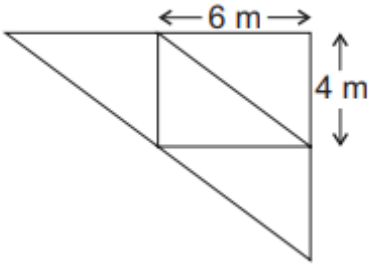
20. A water can holds 5 litres of water. 50 cm^3 of water is drained from the can every minute.

How much water is left in the can after 55 minutes?

Hint: 1 cm^3 = 1 ml

A 2250 cm^3 **B** 225 ml **C** 22.5 m^3 **D** 225 cm^3 **E** 2.25 m^3

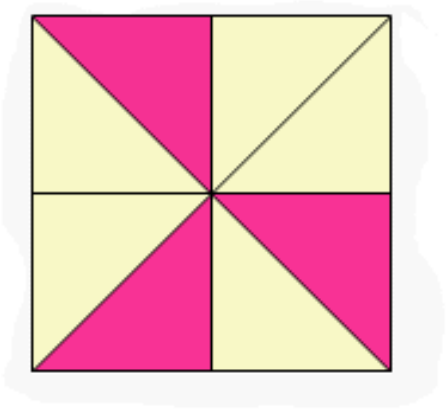
21. The playground at Kerry's school is made up of four identical right-angled triangles, as shown in the figure below.



What is the area of the playground?

A 44 m^2 **B** 60 m^2 **C** 48 m^2 **D** 40 m^2 **E** 56 m^2

22. What percentage of the square is shaded?



A 31% **B** 25% **C** 40% **D** 33% **E** 37.5%

23. A hostel has enough food for 125 students for 16 days.

How long will the food last if 75 more students join them?

A 9 days **B** 10 days **C** 12 days **D** 8 days **E** 6 days

24. A rectangle has 3 known coordinates: (-2, 5), (6, 5) and (6, -2).

Which of the following coordinates is the fourth point of the rectangle?

A (-2, -6) **B** (2, -2) **C** (-2, 6) **D** (-2, -2) **E** (-6, 2)

25. How many different ways can 7 people come 1st, 2nd and 3rd?

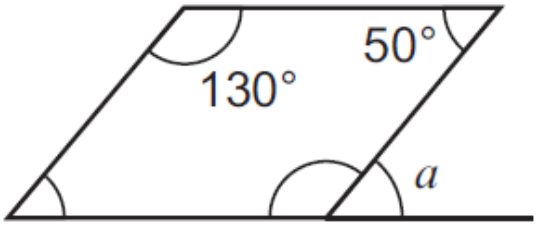
A 105 **B** 630 **C** 5040 **D** 210 **E** 1050

26. Anna is dividing cherries among some bowls. She put 35 cherries in the first bowl, 42 cherries in the second bowl, 49 cherries in the third bowl.

If this pattern continues, how many cherries will Anna put in the sixth bowl?

A 70 **B** 77 **C** 63 **D** 56 **E** 68

27. What is the size of angle a?



A 30° **B** 50° **C** 45° **D** 60° **E** 25°

28. What is the order of rotational symmetry of the figure given below-

A 2 **B** 3 **C** 4 **D** 5 **E** 6

29. When $4\frac{A}{6} + \frac{A}{3} = 20$

What is the value of A?

A 38 **B** 48 **C** 96 **D** 24 **E** 32

30. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random.

What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

A $\frac{1}{2}$ **B** $\frac{2}{5}$ **C** $\frac{9}{20}$ **D** $\frac{8}{15}$ **E** $\frac{4}{9}$

31. Solve

$\frac{2n}{3} + 1 = 11$

A 32 **B** 10 **C** 30 **D** 15 **E** 16

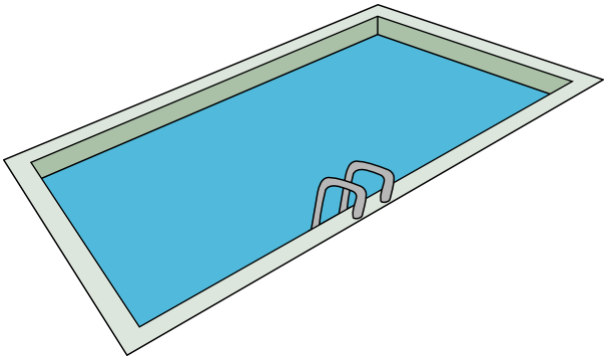
32. Below given are the temperatures of 6 major cities around the world.

City	Vancouver	London	New York	Madrid	Delhi	Moscow
Temperature	-7° C	4° C	2° C	16° C	26° C	-13° C

What is the range of the temperatures?

A 13° C **B** 39° C **C** 26° C **D** 45° C **E** 7° C

33. Derek is trying to work out the volume of a swimming pool.



What units should he measure the volume in?

A mm^3 **B** m^2 **C** m^3 **D** cm^2 **E** cm^3

34. Rita purchases a lottery ticket in a fair. Rule for today's win is that the number inside the ticket should be divisible by 8. Rita wins it today.

Which of the following number did Rita get in her ticket?

A 64568 **B** 49382 **C** 59484 **D** 32562 **E** 44444

35. A shop has an offer on greetings cards. You can buy 3 boxes of 20 cards for the price of 2. A box costs £4.80. Kate buys 6 boxes in the offer. She also buys a box of 12 cards for £2.70.

How much does she spend in total?

A £ 17.90 **B** £ 19.70 **C** £ 21.90 **D** £ 17.70 **E** £ 19.80

36. A number is 5 times greater than another number. By adding 8 to each number,the first number becomes only 3 times greater than the second.

What are the two numbers?

A (20, 4) **B** (35, 7) **C** (40, 8) **D** (50, 10) **E** (30, 6)

37. Holly works for a bookshop. She is paid £7.50 an hour plus 7% of the cost of each book she sells. On Saturday, Holly worked for 3.5 hours and sold £330 worth of books.

How much money did Holly earn?

A £39.35 **B** £45.75 **C** £34.95 **D** £49.35 **E** £40.45

38. A plant grows 0.025 m every 6 months. It is 1.5 m tall.

How many years will it take to reach 2 m?

A 8 **B** 15 **C** 20 **D** 12 **E** 10

39. Craig has 3 dogs. He has to buy each dog a collar (c) and five tins (t) of dog food.

Which expression shows how many collars and tins of food he needs to buy?

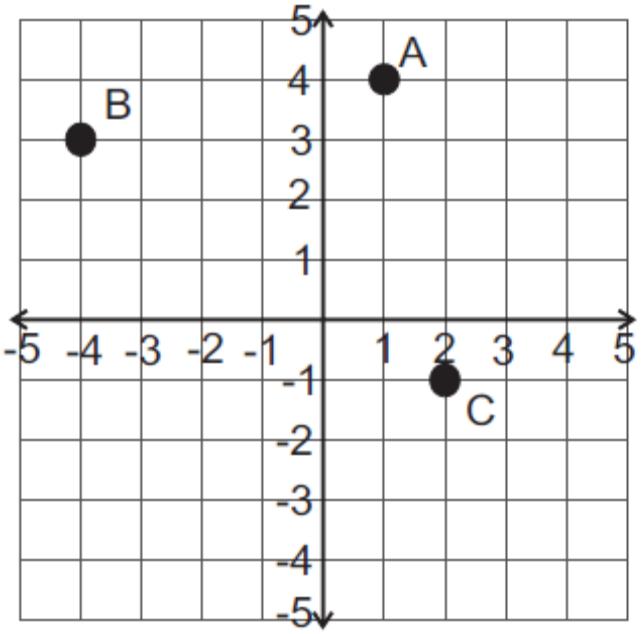
A 3tc **B** 3(c+5t) **C** 3+c+t **D** 3c+3t **E** c+3t

40. John weighs 74.2 kg, Tim weighs 67.8 kg and Mike weighs 69.4 kg.

What is the range of their weights?

A 6.4 kg **B** 0.6 kg **C** 4.8 kg **D** 6.6 kg **E** 8.4 kg

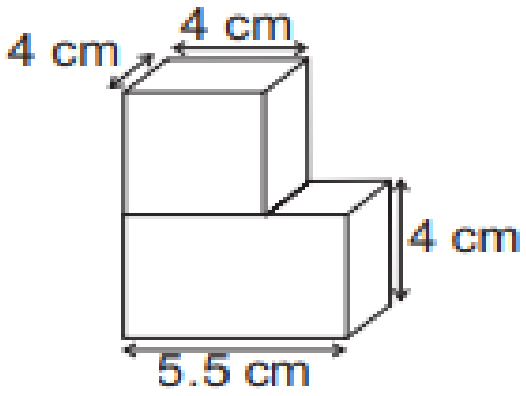
41. A, B and C are three corners of a square.



What are the coordinates of the 4th corner?

A (-2, -3) **B** (-4, -1) **C** (-3, -2) **D** (-3, -1) **E** (-4, -2)

42. The picture below shows a cube on top of a cuboid.



What is the total volume of the shapes?

A 138 cm^3 **B** 165 cm^3 **C** 185 cm^3 **D** 152 cm^3 **E** 155 cm^3

43. Yesterday it was 31°C in Honolulu; it was 41 degrees cooler in Moscow.

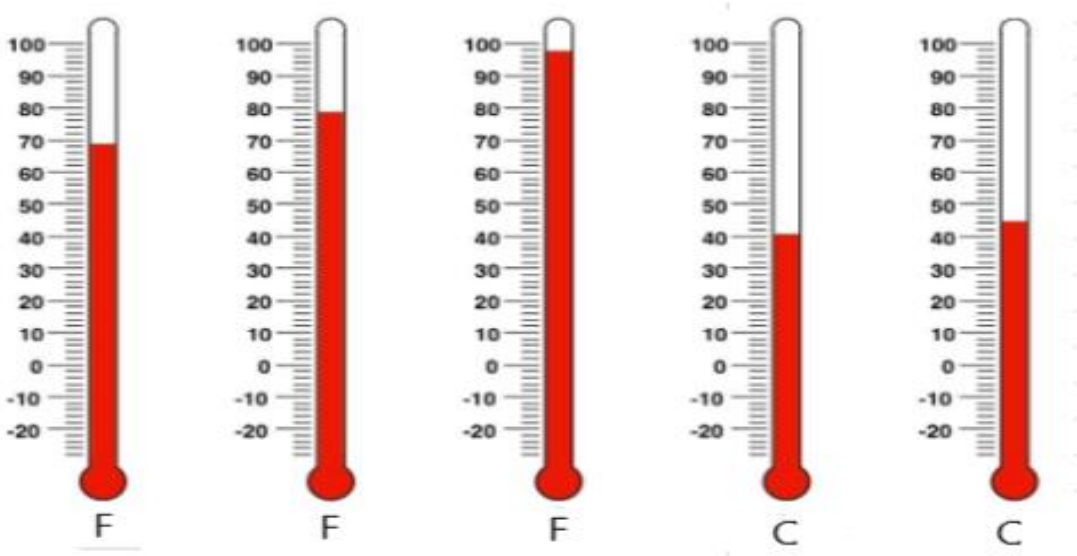
$$C = (F - 32) \times \frac{5}{9}$$

What was the tempersture in Moscow in Fahrenheit where C is degrees Celsius (°C) and F is degrees Fahrenheit (°F).

A 25°F **B** 7°F **C** 14°F **D** 9°F **E** 32°F

44. Kate and Cathy are working on a project for which they collected temperatures of various dishes cooking in their college kitchen.

They used different scales of temperature as shown below-



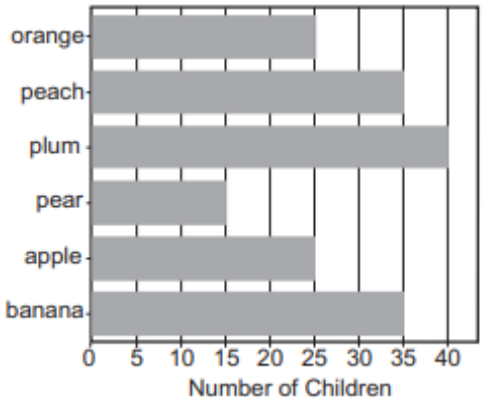
where C is degrees Celsius (°C) and F is degrees Fahrenheit (°F).

What is the highest temperature out of the collected temperatures?

$$C = (F - 32) \times \frac{5}{9}$$

A 44°C **B** 98°F **C** 68°C **D** 78°F **E** 40°C

45. Each child in Bella's year group was asked to pick their favourite fruit. The results were collected in a bar chart.



How many more children chose plums than pears?

A 27 **B** 30 **C** 23 **D** 25 **E** 40

46. Work out

$4^5 \div 6^3 =$

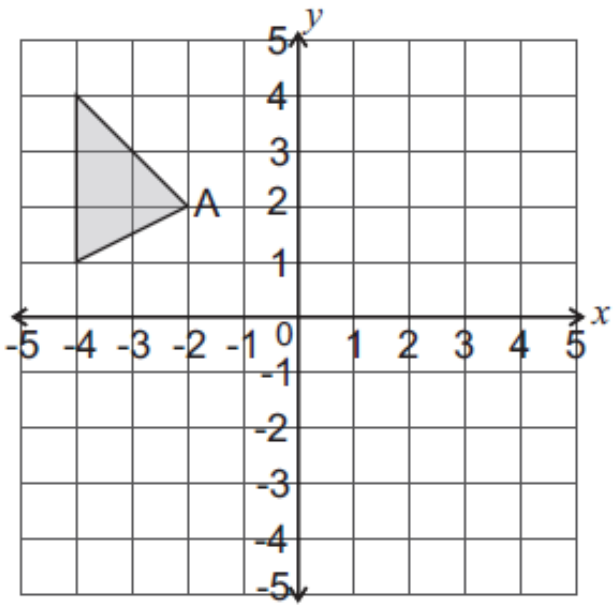
A $\frac{16}{9}$ **B** $\frac{64}{36}$ **C** $\frac{1024}{216}$ **D** $\frac{256}{216}$ **E** $\frac{128}{27}$

47. Joanna works with Transparent Recruitment Company and receives the salary of £37,500. After appraisal, she will get £40,500.

How much percentage increase in her salary will she get?

A 12% **B** 5% **C** 3% **D** 8% **E** 10%

48. Charlie reflects the triangle shown on this graph in the y-axis.



What are the coordinates of the reflection of point A?

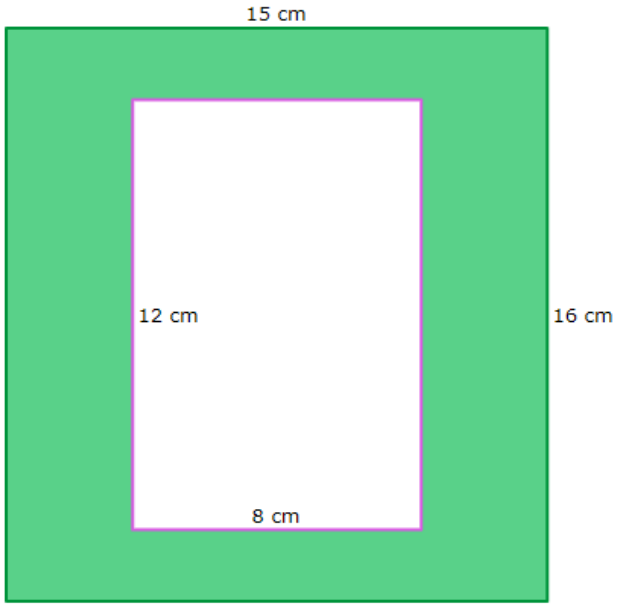
A (–2, –2) **B** (3, 0) **C** (2, 2) **D** (3, 2) **E** (1, 4)

49. The hour and the minute hand of a clock are making an approximate 85° angle.

What can be the most appropriate time?

A 4:07 **B** 2:45 **C** 6:25 **D** 5:03 **E** 5:55

50. What is the area of the shaded region?



A 160 cm^2 **B** 118 cm^2 **C** 96 cm^2 **D** 144 cm^2 **E** 240 cm^2