



**Product title:** Mathematics MCQ for Eleven Plus - Sample Sheet - 2.pdf

Contents:

Answer Sheet

Mathematics Sample Test

1 page

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## Questions

1. Find HCF(Highest Common Factor) and LCM(Lowest Common Multiple) of 26 and 30

A: HCF=1, LCM=297

B: HCF=3, LCM=270

C: HCF=2, LCM=390

D: HCF=1, LCM=899

E: HCF=3, LCM=96

2. Is 48 a prime number?

A: False

B: True

3. Write 78 as product of primes

A:  $2 \times 3 \times 13$

B:  $2 \times 37$

C:  $2 \times 41$

D:  $7 \times 11$

E: 73

4. What is 79% of 38?

A: 26.02

B: 27.18

C: 34.14

D: 33.75

E: 30.02

5. What is 31 hours as a fraction of 1 week?

A: 15/56

B: 1/14

C: 31/168

D: 5/14

E: 25/168

**6.** What is  $86 \div 83$ ?

A: 1.49

B: 1.04

C: 0.38

D: 0.68

E: 2.32

**7.** What is  $34 - 55$ ?

A: -19

B: -25

C: -21

D: -22

**8.** In the sequence below, it takes two operations to go from one term to the next. 16, 98, 508, 2558, 12808, ... What is the next term in the sequence?

A: 70103

B: 60181

C: 64058

D: 67324

E: 65306

**9.** How many bananas at 21p each can be bought with £6?

A: 24.5

B: 28.0

C: 31.5

D: 29.0

E: 33.5

**10.** A giraffe walks at a speed of 2.9 km per hour. What is its speed in metres per second?

- A: 0.54 metre per second
- B: 0.81 metre per second
- C: 0.56 metre per second
- D: 2.23 metre per second
- E: 0.80 metre per second

**11.** What is the first 4-digit multiple of 60?

- A: 540
- B: 1500
- C: 840
- D: 900
- E: 1020

**12.**  $11\% \text{ of } N = 9\% \text{ of } M$ . What is the ratio of N to M?

- A: 9 : 11
- B: 1 : 1
- C: 4 : 3
- D: 5 : 9
- E: 10 : 11

**13.** A theme park ride has 28 compartments. 12 people can sit in each compartment. On one ride, half of the compartments are half full; one-fifth of the compartments are a quarter full; and the remaining compartments are two-thirds full. How many people are there on the ride?

- A: 195
- B: 168
- C: 138
- D: 178
- E: 191

**14.** In 2010, the fastest car travelled at 754 km/h. Rounded to the nearest 10 m, how many metres per second is that equivalent to?

- A: 169 m/s
- B: 212 m/s
- C: 210 m/s
- D: 165 m/s
- E: 183 m/s

**15.** What is the difference between 4.183 rounded to 2 decimal places and 2.102 rounded to 1 decimal place?

- A: 2.09
- B: 2.26
- C: 2.2
- D: 2.08
- E: 2.28

**16.** What is the product of the number of factors of 32 and the lowest prime number?

- A: 21
- B: 11
- C: 12
- D: 6
- E: 5

**17.** What is the answer to  $23 \times 42 + 23 \times 44$ ?

- A: 2088
- B: 1838
- C: 2068
- D: 1898
- E: 1978

**18.** What is 88% of 585?(Round the answer to the nearest Integer)

- A: 515
- B: 556

C: 478

D: 547

E: 499

**19.** What is the sum of 'eight hundred seventeen' and 268?

A: 1162

B: 1132

C: 1085

D: 1096

E: 1071

**20.** A school has 1136 pupils. If 9% are absent, how many pupils are present?

A: 1056 pupils

B: 1104 pupils

C: 991 pupils

D: 952 pupils

E: 1034 pupils

**21.** Let the price of gold per gram be £141. Let the price of a diamond per gram be £10455. A jeweller makes rings with gold and diamonds. The cost of a ring, R, in pounds (£) is:  $R = 141wg + 10455wd + 10\% (141wg + 10455wd)$ , where wg is the weight of the gold in g, and wd is the weight of the diamond in g. How much does a ring that consists of 19 g of gold and 0.47 g of diamond cost to buy?

A: £8352.1

B: £8508.1

C: £8503.1

D: £8435.1

E: £8190.1

**22.** Which quadrilateral has four equal sides and diagonals that bisect each other perpendicularly, but whose interior angles are not necessarily all equal?

A: Rectangle

B: Parallelogram

- C: Kite
- D: Square
- E: Rhombus

**23.** Ms Grace sells collection of second-hand books for 15% less than the price she paid for them. If Ms Grace receives £147 for the second-hand books, how much did she originally pay for them?

- A: £173
- B: £169
- C: £170
- D: £177
- E: £179

**24.** A car travels 18 km on one litre of petrol. If one litre of petrol costs £1.34, what is the approximate cost of petrol for a 300 km journey?

- A: £23.1
- B: £25.1
- C: £16.2
- D: £32.2
- E: £22.3

**25.** I buy a house for £486448, but it falls in value by 19% during the first year. The value then increases by 18% during the 2nd year. How much above the original price is the house worth at the end of the 2nd year?

- A: £100
- B: £-21501
- C: £6208
- D: £-3791
- E: £250

**26.** How many thirtieths are there in 393?

- A: 9489
- B: 13206

C: 11790

D: 16377

E: 9151

**27.** Which one of the following is not equivalent to ' $2a = 3b + 4c$ '?

A:  $3b = 2a - 4c$

B:  $4c = 2a + 3b$

C:  $2a - 3b = 4c$

D:  $4a = 6b + 8c$

E:  $4c = 2a - 3b$

**28.** Harry sets off on a journey. He travels for 81 km on a B road, which takes 49 minutes. Then He takes a motorway for the rest of the journey, on which He completes a further 163 km in 72 minutes. What is Harry's average speed for the whole journey?

A: 118 km/h

B: 102 km/h

C: 132 km/h

D: 119 km/h

E: 121 km/h

**29.** 40 pupils in a class write with their right hand. 14 pupils write with their left hand. 4 of these pupils are counted thrice as they can write with their right hand and left hand. How many pupils are in the class?

A: 49

B: 51

C: 46

D: 36

E: 40

**30.** Edward is saving for a new phone. The phone costs £590 and Edward saves  $\frac{1}{6}$  of his pocket money each week. It takes Edward exactly 48 weeks to save the money for the phone. How much pocket money does Edward receive each week? (Round the answer to the nearest Integer)

A: £85

- B: £66
- C: £74
- D: £96
- E: £59

**31.** Oliver is 10 years old, Amelia is 13 and Olivia is 11. Uncle James gives the children £190 and asks them to share it in the ratio of their ages. How much more money should Olivia receive than Oliver?

- A: £4
- B: £14
- C: £1
- D: £7
- E: £6

**32.** 16 pickers can harvest 10 acres of land in 7 days. How many pickers will be required to harvest 14 acres of land in 4 days?

- A: 35
- B: 39
- C: 38
- D: 46
- E: 40

**33.** What is the perimeter of a equilateral triangle with area  $88 \text{ cm}^2$ ? (Round the answer to the nearest Integer)

- A: 52
- B: 53
- C: 43
- D: 47
- E: 40

**34.** A pencil weighs the same as 77 sheets of paper. A rubber weighs the same as 82 sheets of paper. How many pencils weigh the same as 12 rubbers? (Round the answer to nearest Integer)

- A: 13

B: 12

C: 9

D: 14

E: 10

35. There are 4535 pears on a tree. 87 pears are picked every day. For how many days can this be done before the pears run out?

A: 37

B: 27

C: 42

D: 66

E: 52

36. A rectangle (R1) has sides of length L and  $3L$ . If both sides are multiplied by 2 to make a larger rectangle (R2), what is the ratio of the area of R1 to the area of R2?

A: 1 : 8

B: 1 : 1

C: 1 : 6

D: 1 : 4

E: 1 : 9

37.  $\frac{3}{5}$  of a number, N, is 231. What is the value of  $N + 4$ ?

A: 389.00

B: 374.39

C: 544.07

D: 378.99

E: 396.63

38. What is 'a fifth of 110' divided by 'a half of 55'?

A: 1.0

B: 0.8

C: 3.6

D: 2.6

E: 0.9

**39.** Let  $r6.76$  mean 'the remainder when 6 is divided into 76'. So,  $r6.76 = 4$ . What is the value of  $r7.130 \times r6.76$ ?

A: 16

B: 14

C: 13

D: 17

E: 11

**40.** Jack rounds a whole number to the nearest 1000. A different whole number, rounded to its nearest 100, produces the same result of 15000. What is the maximum difference between the two numbers?

A: 1047

B: 962

C: 1018

D: 997

E: 999

**41.** X, Y and Z all work at the same company and get their first drink from the refreshment centre when arriving at work at 08:00. Thereafter, X goes to get a drink every 50 minutes, Y goes every 25 minutes and Z every 30 minutes. What is the next time that X, Y and Z meet at the refreshment centre?

A: 10:30 AM

B: 09:00 AM

C: 09:30 AM

D: 10:00 AM

E: 11:00 AM

**42.** The price of a book is reduced in a sale by 20%. If the sale price is £7.20, what was the original price of the book before the reduction?

A: £10.29

B: £9.91

C: £9.00

D: £8.95

E: £9.54

**43.** How many 125 ml servings can be poured from a 2 litre jug of water?

A: 20

B: 17

C: 26

D: 7

E: 16

**44.**  $6^2 + 8^2 = N^2$ . What is the value of N?

A: 6

B: 9

C: 10

D: 11

E: 13

**45.** Jack rings every multiple of 6 less than 145. He then crosses every multiple of 10 less than 145. How many numbers get ringed and crossed?

A: 0

B: 7

C: 5

D: 4

**46.** Amelia was t years old 2 years ago. How old was Amelia 5 years ago?

A:  $t + 5$

B:  $t + 4$

C:  $t + 8$

D:  $t - 3$

E:  $t - 2$

**47.** Ms Freya works in a car showroom. The pay,  $P$ , in pounds (£) is worked out as follows:  $P = 19T + 55C$ , where  $T$  is the number of hours that she works, and  $C$  is the number of cars that she sells. Last week Ms Freya worked from 7:00 to 12:00 on all 7 days, and she sold 1 car every day, except on one day when she sold 1 cars. How much money did Ms Freya earn last week?

- A: £1028
- B: £1050
- C: £1108
- D: £1057
- E: £1122

**48.**  $2/5$  of 641 = ?(Round to nearest Integer)

- A: 206
- B: 256
- C: 241
- D: 297
- E: 362

**49.** The length of a rectangle is  $3x + 4$ . The width of the rectangle is half the length. What is the perimeter of the rectangle?

- A:  $11x + 11$
- B:  $6x + 13$
- C:  $6x + 9$
- D:  $9x + 12$
- E:  $12x + 13$

**50.** A film lasts for 2 hours and 26 minutes. It is 67% of the way through at 4:18. At what time did the film start?

- A: 2:31
- B: 2:58
- C: 2:33
- D: 2:43
- E: 2:40

## Answer Sheet

1. C	2. A	3. A	4. E	5. C
6. B	7. C	8. C	9. B	10. B
11. E	12. A	13. B	14. C	15. D
16. C	17. E	18. A	19. C	20. E
21. A	22. E	23. A	24. E	25. B
26. C	27. B	28. E	29. C	30. C
31. E	32. E	33. C	34. A	35. E
36. D	37. A	38. B	39. A	40. E
41. A	42. C	43. E	44. C	45. D
46. D	47. B	48. B	49. D	50. E

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