



**Product title:** Mathematics MCQ for Eleven Plus - Sample Sheet - 1.pdf

Contents:

Answer Sheet

Mathematics Sample Test

1 page

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## Questions

1. What is  $5 \div 9$ ?

- A: 1.09
- B: 0.56
- C: 1.69
- D: -1.31
- E: 1.37

2. What is 10% of 3?

- A: 0.3
- B: 4.41
- C: -2.25
- D: 2.28
- E: 2.29

3. Solve for x:  $x * 24 = 192$

- A: 7
- B: 8
- C: 3
- D: 6
- E: 4

4. What is 16 hours as a fraction of 1 week?

- A: 5/84
- B: 1/6
- C: 4/21
- D: 1/28
- E: 2/21

5. Write 6 as product of primes

A:  $3^2$

B:  $2 \times 3$

C: 11

D: 3

**6.** Is 3 a prime number?

A: True

B: False

**7.** Find HCF(Highest Common Factor) and LCM(Lowest Common Multiple) of 9 and 5

A: HCF=1, LCM=45

B: HCF=1, LCM=6

C: HCF=1, LCM=8

D: HCF=1, LCM=32

E: HCF=1, LCM=28

**8.** A cat walks at a speed of 2.2 km per hour. What is its speed in metres per second?

A: 1.43 metre per second

B: 0.48 metre per second

C: 0.49 metre per second

D: 0.61 metre per second

E: 0.81 metre per second

**9.** What is the product of the number of factors of 8 and the lowest prime number?

A: 3

B: 8

C: 16

D: 4

E: 5

**10.** What is the difference between 'sixty' and 19?

A: 41

B: 8

C: 92

D: 23

E: 136

**11.** What is 43% of 123?(Round the answer to the nearest Integer)

A: 86

B: 36

C: 22

D: 60

E: 53

**12.** In 2019, the fastest car travelled at 181 km/h. Rounded to the nearest 10 m, how many metres per second is that equivalent to?

A: 36 m/s

B: 54 m/s

C: 50 m/s

D: 62 m/s

E: 74 m/s

**13.** What is the difference between 6.761 rounded to 2 decimal places and 3.084 rounded to 1 decimal place?

A: 3.85

B: 3.71

C: 3.64

D: 3.66

E: 3.65

**14.** A theme park ride has 10 compartments. 8 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: 41

B: 27

C: 40

D: 36

E: 46

**15.** How many bananas at 20p each can be bought with £3?

A: 20.15

B: 13.35

C: 15.00

D: 10.25

E: 17.50

**16.** 20% of N = 10% of M. What is the ratio of N to M?

A: 1 : 4

B: 1 : 2

C: 9 : 20

D: 11 : 24

E: 5 : 23

**17.** A school has 903 pupils. If 8% are absent, how many pupils are present?

A: 919 pupils

B: 831 pupils

C: 918 pupils

D: 884 pupils

E: 887 pupils

**18.** What is the answer to  $8 \times 61 + 8 \times 63$ ?

A: 992

B: 902

C: 892

D: 912

E: 1042

**19.** What is the first 3-digit multiple of 10?

- A: 100
- B: 30
- C: 120
- D: 90
- E: 190

**20.** In the sequence below, it takes two operations to go from one term to the next. 10, 39, 126, 387, 1170, ... What is the next term in the sequence?

- A: 3442
- B: 3519
- C: 3660
- D: 3372
- E: 3240

**21.** I buy a house for £204126, but it falls in value by 10% during the first year. The value then increases by 14% during the 2nd year. How much above the original price is the house worth at the end of the 2nd year?

- A: £3790
- B: £5307
- C: £3977
- D: £6080
- E: £6208

**22.** Let the price of gold per gram be £65. Let the price of a diamond per gram be £11523. A jeweller makes rings with gold and diamonds. The cost of a ring, R, in pounds (£) is:  $R = 65wg + 11523wd + 10\% (65wg + 11523wd)$ , 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 8 g of gold and 0.46 g of diamond cost to buy?

- A: £6362.6
- B: £6402.6
- C: £6562.6
- D: £6554.6
- E: £6471.6

**23.** Grace is 8 years old, Harry is 5 and Emily is 6. Auntie Helen gives the children £130 and asks them to share it in the ratio of their ages. How much more money should Emily receive than Grace?

- A: £17
- B: £14
- C: £20
- D: £24
- E: £11

**24.** How many twentieths are there in 40?

- A: 1025
- B: 452
- C: 632
- D: 800
- E: 505

**25.** All my sides and angles are equal, and my diagonals bisect each other at  $90^\circ$ . What shape could I be?

- A: Parallelogram
- B: Rhombus
- C: Kite
- D: Rectangle
- E: Square

**26.** A pencil weighs the same as 24 sheets of paper. A rubber weighs the same as 43 sheets of paper. How many pencils weigh the same as 7 rubbers? (Round the answer to nearest Integer)

- A: 13
- B: 9
- C: 18
- D: 10
- E: 16

**27.** Mr William sells collection of second-hand books for 20% less than the price he paid for them. If Mr William receives £97 for the second-hand books, how much did he originally pay for them?

- A: £130
- B: £121
- C: £129
- D: £126
- E: £128

**28.** There are 209 mangoes on a tree. 24 mangoes are picked every day. For how many days can this be done before the mangoes run out?

- A: 6
- B: 9
- C: 5
- D: 10
- E: 8

**29.** A car travels 10 km on one litre of petrol. If one litre of petrol costs £1.52, what is the approximate cost of petrol for a 250 km journey?

- A: £43.9
- B: £38.0
- C: £39.1
- D: £27.6
- E: £41.8

**30.** What is the perimeter of a square with area  $82 \text{ cm}^2$ ? (Round the answer to the nearest Integer)

- A: 38
- B: 36
- C: 41
- D: 31
- E: 35

**31.** Amelia sets off on a journey. She travels for 60 km on a B road, which takes 44 minutes. Then She takes a motorway for the rest of the journey, on which She completes a further 142 km in 85 minutes. What is Amelia's average speed for the whole journey?

- A: 100 km/h
- B: 75 km/h
- C: 74 km/h
- D: 86 km/h
- E: 94 km/h

**32.** 22 pupils in a class write with their right hand. 7 pupils write with their left hand. 7 of these pupils are counted twice as they can write with their right hand and left hand. How many pupils are in the class?

- A: 22
- B: 18
- C: 24
- D: 20
- E: 17

**33.** 14 pickers can harvest 4 acres of land in 2 days. How many pickers will be required to harvest 10 acres of land in 1 day?

- A: 70
- B: 65
- C: 62
- D: 63
- E: 64

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

- A:  $2a = 6b + 2c$
- B:  $3b = a - c$
- C:  $a + 3b = c$
- D:  $c = a - 3b$
- E:  $a - 3b - c = 0$

**35.** Henry is saving for a new phone. The phone costs £520 and Henry saves 1/5 of his pocket money each week. It takes Henry exactly 46 weeks to save the money for the phone. How much pocket money does Henry receive each week? (Round the answer to the nearest Integer)

- A: £58
- B: £57
- C: £52
- D: £55
- E: £49

**36.** 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 17 minutes, Y goes every 30 minutes and Z every 18 minutes. What is the next time that X, Y and Z meet at the refreshment centre?

- A: 10:30 AM
- B: 10:00 AM
- C: 09:30 AM
- D: 12:00 PM
- E: 01:06 PM

**37.** Emily rounds a whole number to the nearest 10000. A different whole number, rounded to its nearest 1000, produces the same result of 120000. What is the maximum difference between the two numbers?

- A: 9990
- B: 10033
- C: 9997
- D: 5499
- E: 10041

**38.** A film lasts for 5 hours and 23 minutes. It is 50% of the way through at 3:12. At what time did the film start?

- A: 12:24
- B: 12:33
- C: 12:30
- D: 12:38

E: 12:29

**39.** Isla rings every multiple of 21 less than 488. She then crosses every multiple of 11 less than 488. How many numbers get ringed and crossed?

- A: 1
- B: 2
- C: 5
- D: 0

**40.** The length of a rectangle is  $6x + 13$ . The width of the rectangle is half the length. What is the perimeter of the rectangle?

- A:  $23x + 44$
- B:  $15x + 37$
- C:  $18x + 39$
- D:  $20x + 49$
- E:  $24x + 28$

**41.** How many 225 ml servings can be poured from a 9 litre jug of water?

- A: 47
- B: 40
- C: 31
- D: 49
- E: 43

**42.**  $\frac{4}{7}$  of a number, N, is 1045. What is the value of  $N + 4$ ?

- A: 1523.92
- B: 1832.75
- C: 2270.50
- D: 2514.07
- E: 1475.03

**43.**  $5/14$  of 8629 = ?(Round to nearest Integer)

- A: 4369
- B: 3086
- C: 3082
- D: 2379
- E: 2199

**44.** The price of a book is reduced in a sale by 36%. If the sale price is £11.50, what was the original price of the book before the reduction?

- A: £17.95
- B: £19.71
- C: £16.55
- D: £17.97
- E: £16.58

**45.** Mr Jack works in a car showroom. The pay, P, in pounds (£) is worked out as follows:  $P = 15T + 88C$ , where T is the number of hours that he works, and C is the number of cars that he sells. Last week Mr Jack worked from 6:00 to 14:00 on all 7 days, and he sold 1 car every day, except on one day when he sold 1 cars. How much money did Mr Jack earn last week?

- A: £1325
- B: £1456
- C: £1371
- D: £1432
- E: £1547

**46.**  $39^2 + 80^2 = N^2$ . What is the value of N?

- A: 94
- B: 90
- C: 89
- D: 93
- E: 85

**47.** A rectangle (R1) has sides of length L and  $4L$ . If both sides are multiplied by 6 to make a larger rectangle (R2), what is the ratio of the area of R1 to the area of R2?

- A: 1 : 41
- B: 1 : 36
- C: 1 : 37
- D: 1 : 40
- E: 1 : 32

**48.** What is 'a sixth of 60' divided by 'a quarter of 13'?

- A: 3.3
- B: 4.1
- C: 1.5
- D: 6.0
- E: 3.1

**49.** Harry was  $t$  years old 8 years ago. How old was Harry 10 years ago?

- A:  $t - 1$
- B:  $t + 1$
- C:  $t + 7$
- D:  $t - 2$
- E:  $t + 3$

**50.** Let  $r_{31.299}$  mean 'the remainder when 31 is divided into 299'. So,  $r_{31.299} = 20$ . What is the value of  $r_{54.1043} \times r_{31.299}$ ?

- A: 337
- B: 341
- C: 340
- D: 343
- E: 339

## Answer Sheet

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

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