



EP.M135 GL Assessment Style Maths Mock Paper 1

GL ASSESSMENT GL-11PLUS-MATHS-MOCK · Calculators not allowed · about 55 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

1 What is 7 times 8?

- ☐ A) 48
- ☐ B) 54
- ☐ C) 56
- ☐ D) 58
- ☐ E) 64

(Total for Question 1 is 1 mark)

2 Which fraction is equal to $\frac{3}{4}$?

- ☐ A) $\frac{6}{8}$
- ☐ B) $\frac{9}{16}$
- ☐ C) $\frac{4}{6}$
- ☐ D) $\frac{3}{8}$
- ☐ E) $\frac{5}{6}$

(Total for Question 2 is 1 mark)

3 Write 0.375 as a fraction in its simplest form.

(Total for Question 3 is 1 mark)

4 A rectangle has length 12 cm and width 7 cm. Work out its perimeter.

(Total for Question 4 is 1 mark)

5 Which is the smallest number that is a multiple of both 6 and 15?

- ☐ A) 30
- ☐ B) 28
- ☐ C) 44
- ☐ D) 75
- ☐ E) 90

(Total for Question 5 is 1 mark)

6 A bus left at 09:15 and the journey took 2 hours 40 minutes. At what time did the bus arrive?

- ☐ A) 11:25
- ☐ B) 11:55
- ☐ C) 12:15
- ☐ D) 12:35
- ☐ E) 12:55

(Total for Question 6 is 1 mark)

7 Which of these is the next prime number after 23?

- ☐ A) 25
- ☐ B) 26
- ☐ C) 27
- ☐ D) 29
- ☐ E) 31

(Total for Question 7 is 1 mark)

8 A shop reduces the price of a toy from £18 to £13.50. What is the percentage discount, to the nearest whole percent?

- ☐ A) 18%
- ☐ B) 20%
- ☐ C) 22%
- ☐ D) 25%
- ☐ E) 30%

(Total for Question 8 is 1 mark)

9 Which angle is a right angle?

- ☐ A) 45 degrees
- ☐ B) 60 degrees
- ☐ C) 90 degrees
- ☐ D) 120 degrees
- ☐ E) 180 degrees

(Total for Question 9 is 1 mark)

10 Complete the pattern: 5, 10, 20, 40, __

- ☐ A) 45
- ☐ B) 60
- ☐ C) 70
- ☐ D) 80
- ☐ E) 100

(Total for Question 10 is 1 mark)

11 A bottle holds 1.5 litres of juice. Sam pours 350 ml into a glass, then 0.45 litres into another. How much juice is left in the bottle? Give your answer in millilitres.

(Total for Question 11 is 2 marks)

12 A train travels 180 km in 2 hours 15 minutes. Calculate its average speed in km/h, correct to one decimal place.

(Total for Question 12 is 2 marks)

13 A recipe needs $\frac{2}{3}$ of a cup of sugar. Olivia wants to make half a batch. How much sugar should she use? Give your answer as a fraction of a cup.

(Total for Question 13 is 1 mark)

- 14** A cinema hires rows of seats in blocks. Each row has 14 seats. They need to seat 198 people so that no one stands. How many full rows will be used and how many empty seats will there be? Give both answers.

(Total for Question 14 is 2 marks)

- 15** A rectangular garden measures 9 m by 14 m. A path of uniform width is placed around the outside of the garden so that the total area (garden plus path) is 204 m^2 . Work out the width of the path in metres. Show your working.

(Total for Question 15 is 3 marks)

- 16** A survey asked 120 pupils which sport they prefer. The results were: football 46, netball 18, tennis 20, rugby 12, other 24. Draw a pie chart showing the data. Give the angle, in degrees, for the football slice and for the 'other' slice. Show the method.

(Total for Question 16 is 4 marks)

- 17** A number machine does the following: multiply by 4, then subtract 7, then divide by 3. The output is 11. Work backwards to find the original input number. Show your working.

(Total for Question 17 is 4 marks)

- 18** A shop sells pencils in packs of 12 and erasers in packs of 8. A school orders the same whole number of packs of pencils and packs of erasers so that the total number of items is the same for each. What is the smallest number of packs of each the school could order? Give the number of packs and the total items of each kind.

(Total for Question 18 is 4 marks)

- 19** A right-angled triangle has sides of length 7 cm and 24 cm which are the two shorter sides. Work out the length of the hypotenuse, giving your answer to the nearest tenth of a centimetre. Show your working.

(Total for Question 19 is 4 marks)

- 20** A shopkeeper packs jars into boxes. Each box holds 9 jars. He has 275 jars. He fills as many full boxes as possible and then puts the remaining jars into a final box that will not be full. How many boxes does he use in total? Show your working.

(Total for Question 20 is 4 marks)

- 21** A shop sells cakes at £1.75 each. A customer buys 7 cakes and pays with a £20 note. How much change should the customer receive? Show your working.

(Total for Question 21 is 4 marks)

- 22** A metal rod is cut into three pieces in the ratio 3:5:7. The shortest piece is 12 cm long. Work out the total length of the rod. Show your working and give the answer in centimetres.

(Total for Question 22 is 6 marks)

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Question 1

- **B1** correct option C (56) cao
- **Answer: C) 56**

Question 2

- **B1** correct option A (6/8) cao
- **Answer: A) 6/8**

Question 3

- **B1** 3/8 cao
- **Answer: 3/8**

Question 4

- **B1** 38 cm cao
- **Answer: 38 cm**

Question 5

- **B1** correct option A (30) cao
- **Answer: A) 30**

Question 6

- **B1** correct option B (11:55) cao
- **Answer: B) 11:55**

Question 7

- **B1** correct option D (29) cao
- **Answer: D) 29**

Question 8

- **B1** correct option D (25%) cao
- **Answer: D) 25%**

Question 9

- **B1** correct option C (90 degrees) cao
- **Answer: C) 90 degrees**

Question 10

- **B1** correct option D (80) cao
- **Answer: D) 80**

Question 11

- **M1** correct subtraction method: 1500 - 350 - 450 or equivalent seen
- **A1** 700 ml cao
- **Answer: 700 ml**

Question 12

- **M1** time converted to hours: 2.25 h or equivalent, and division started
- **A1** 80.0 km/h cao
- **Answer: 80.0 km/h**

Question 13

- **B1** 1/3 cup cao
- **Answer: 1/3 cup**

Question 14

- **M1** division $198 / 14 = 14$ remainder 2 or 14 rows used seen
- **A1** 14 full rows and $14 - 2 = 12$ empty seats cao
- **Answer: 14 full rows and 12 empty seats**

Question 15

- **M1** method: set $(9 + 2w)(14 + 2w) = 204$ or area expansion seen
- **M1** correct expansion to give $126 + 46w + 4w^2 = 204$ or equivalent
- **A1** $w = 1.5$ m cao
- **Answer: 1.5 m**

Question 16

- **M1** method: angle = frequency/total $\times 360$ seen for one category
- **M1** football angle: $46/120 \times 360 = 138$ degrees or 138 seen
- **M1** other angle: $24/120 \times 360 = 72$ degrees or 72 seen
- **A1** 138 degrees and 72 degrees cao
- **Answer: Football 138 degrees, Other 72 degrees**

Question 17

- **M1** start of reverse process: $11 \times 3 = 33$ or equivalent seen
- **M1** then add 7: $33 + 7 = 40$ seen
- **M1** then divide by 4: $40 / 4 = 10$ seen
- **A1** original input 10 cao
- **Answer: 10**

Question 18

- **M1** method to find LCM of 12 and 8 or listing multiples seen: LCM = 24
- **M1** number of packs: $24/12 = 2$ packs of pencils and $24/8 = 3$ packs of erasers stated
- **M1** statement of packs: 2 packs pencils and 3 packs erasers seen
- **A1** total items: 24 of each cao
- **Answer: 2 packs of pencils and 3 packs of erasers; 24 items of each**

Question 19

- **M1** Pythagoras method used: $\text{hyp}^2 = 7^2 + 24^2$ seen
- **M1** correct sum $49 + 576 = 625$ seen
- **M1** square root taken: $\text{hyp} = 25$ seen
- **A1** 25.0 cm cao
- **Answer: 25.0 cm**

Question 20

- **M1** division $275 / 9 = 30$ r5 or equivalent seen
- **M1** recognition that 30 full boxes plus one partly full box gives total boxes = 31
- **M1** statement 31 boxes seen
- **A1** 31 boxes cao
- **Answer: 31 boxes**

Question 21

- **M1** multiplication $7 \times 1.75 = 12.25$ seen
- **M1** subtraction $20.00 - 12.25 = 7.75$ started or seen
- **M1** correct calculation to give 7.75
- **A1** £7.75 change cao
- **Answer: £7.75**

Question 22

- **M1** recognition that 3 parts correspond to 12 cm, so 1 part = 4 cm
- **M1** correct multiplication to find sizes: 3 parts = 12, 5 parts = 20, 7 parts = 28 or equivalent seen
- **M1** sum of parts method: total parts = 3 + 5 + 7 = 15 seen
- **M1** 1 part = $12/3 = 4$ cm seen (alternative method acceptable)
- **M1** total length = $15 \times 4 = 60$ cm seen
- **A1** 60 cm cao
- **Answer: 60 cm**