



EP.M90 Measurement, Money and Time Depth Set 2

GL ASSESSMENT GL · Calculators not allowed · about 55 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

1 Which of these is equal to 3.2 metres?

- ☐ A) 32 cm
☐ B) 320 cm
☐ C) 3200 cm
☐ D) 0.32 cm

(Total for Question 1 is 1 mark)

2 Which of these is equal to 0.65 kg?

- ☐ A) 65 g
☐ B) 650 g
☐ C) 6500 g
☐ D) 6.5 g

(Total for Question 2 is 1 mark)

3 Convert each of these capacities.

(a) Convert 2400 ml into litres. (1)

(b) Convert 3.75 litres into millilitres. (1)

(Total for Question 3 is 2 marks)

4 A set of kitchen scales is marked in intervals of 100 g, from 0 g to 1000 g. The needle rests exactly on the 6th mark after the 0 g mark. What mass does the scale show?

(Total for Question 4 is 1 mark)

- 5 Ben buys a snack costing 65p. He pays with a 2 pound coin. How much change should he receive?

(Total for Question 5 is 1 mark)

- 6 A rugby match kicks off at 2:20 pm and the final whistle blows at 3:55 pm. How many minutes does the match last?

(Total for Question 6 is 1 mark)

- 7 Write 20:15 using the 12-hour clock (include am or pm).

(Total for Question 7 is 1 mark)

- 8 A plank of wood measures 1 m 20 cm. A second plank measures 74 cm. Calculate the total length of the two planks. Give your answer in metres.

(Total for Question 8 is 2 marks)

- 9 Farah uses a set of bathroom scales. The dial is numbered every 20 kg, with 4 equally spaced unlabelled small divisions between each pair of numbered marks. The needle points to the 2nd small division after the 40 kg mark.

(a) State the value of each small division, in kg. (1)

(b) Calculate the mass, in kg, that the needle is pointing to. (1)

.....
(Total for Question 9 is 2 marks)

- 10** Nadia buys craft supplies for her class: 5 glue sticks at 45p each, 3 packs of card at 1.05 pounds each, and one pair of scissors at 1.35 pounds. Calculate the total cost of her shopping, in pounds.

(Total for Question 10 is 3 marks)

- 11** A bus timetable shows departures from Oak Road: 07:20, 08:00, 08:40, 09:20 (every 40 minutes). Each journey to the Town Centre takes 18 minutes.

(a) At what time does the 08:00 bus arrive at the Town Centre? (1)

(b) Sam reaches the bus stop at Oak Road at 07:55, just missing a bus. How many minutes must he wait for the next bus? (2)

(Total for Question 11 is 3 marks)

- 12** A cyclist rides at a constant speed of 15 km/h for 1 hour 45 minutes. Calculate the distance travelled.

(Total for Question 12 is 2 marks)

- 13** A train travels 98 km at an average speed of 70 km/h. Calculate how long the journey takes, giving your answer in hours and minutes.

(Total for Question 13 is 2 marks)

- 14** Farmer Duggan is fencing a rectangular field measuring 38 m by 22 m. Fencing costs 4.20 pounds per metre. Calculate the total cost of fencing the whole perimeter of the field.

(Total for Question 14 is 3 marks)

- 15** A water bottle holds 600 ml. Calculate how many complete bottles can be filled from a 4.5 litre container.

(Total for Question 15 is 2 marks)

- 16** Shop A sells a 2 kg bag of rice for 3.60 pounds. Shop B sells a 2.5 kg bag of the same rice for 4.25 pounds.

(a) Work out the cost per kg at each shop. (2)

(b) Which shop offers better value for money? Give a reason. (1)

(Total for Question 16 is 3 marks)

- 17** A coach departs at 22:40 and the journey lasts 4 hours 15 minutes.

(a) Calculate the arrival time, using the 24-hour clock. (2)

(b) Convert this arrival time into the 12-hour clock. (1)

(Total for Question 17 is 3 marks)

18 A market stall sells cherries at 5.00 pounds per kg. Sadia buys 480 g of cherries.

(a) Calculate the cost of the cherries Sadia buys. (2)

.....
(b) Sadia pays with a 5 pound note. Calculate her change. (2)

.....
(Total for Question 18 is 4 marks)

19 Elif cuts four lengths of ribbon: 1.1 m, 85 cm, 900 mm, and 1 m 3 cm. Put these lengths in order, from shortest to longest.

(Total for Question 19 is 2 marks)

20 Ronan drives from his home to Aldbury, a distance of 30 km, at an average speed of 60 km/h. He then drives from Aldbury to Bishton, a distance of 72 km, at an average speed of 48 km/h.

(a) Calculate the time taken for each part of Ronan's journey. (2)

.....
(b) Calculate Ronan's average speed for the whole journey, in km/h. (2)

.....
(c) Ronan needs to arrive in Bishton by 15:30 and leaves home at 12:45. Explain, (2)
with a reason, whether he will arrive on time.

(Total for Question 20 is 6 marks)

21 A coach departs Aldergate at 06:50 and is booked to arrive at Brindley Cross at 07:35. A connecting train departs Brindley Cross at 07:40 and arrives at Caldermoor at 08:22.

(a) The coach actually runs 11 minutes late. At what time does it now arrive at Brindley Cross? (1)

(b) Explain whether Farida, who is travelling on the coach, will catch the connecting train to Caldermoor. (2)

(c) The next train departs Brindley Cross at 08:20 and takes the same journey time as the original train. At what time will Farida now arrive at Caldermoor? (2)

(Total for Question 21 is 5 marks)

22 A coat is priced at 75 pounds. In a sale it is reduced by 18%.

(a) Calculate the sale price of the coat. (2)

(b) Grace pays for the coat with four 20 pound notes. Calculate her change. (2)

(Total for Question 22 is 4 marks)

23 A hosepipe fills a paddling pool at a constant rate. It takes 30 minutes to fill 450 litres.

(a) Calculate the rate of flow, in litres per minute. (2)

(b) At this rate, calculate how long it would take to fill a paddling pool with a capacity of 600 litres. Give your answer in minutes. (2)

(Total for Question 23 is 4 marks)

24 Mrs Adeyemi needs to arrive at an event in Lyneham by 16:00. The distance from her home to Lyneham is 126 km. She plans to drive at an average speed of 63 km/h and will take one 25 minute break on the way. Petrol for the journey costs 0.15 pounds per km.

(a) Calculate the driving time for the journey, not including the break. Give your answer in hours and minutes. (2)

(b) Calculate the latest time Mrs Adeyemi must leave home in order to arrive by 16:00, including the break. (3)

(c) Calculate the total cost of petrol for the 126 km journey. (2)

(Total for Question 24 is 7 marks)

Mark scheme · EP.M90 Measurement, Money and Time Depth Set 2

Question 1

- **B1** B cao
- **Answer: B) 320 cm**

Question 2

- **B1** B cao
- **Answer: B) 650 g**

Question 3

- (a) **B1** 2.4 litres cao
- (a) **Answer: 2.4 litres**
- (b) **B1** 3750 ml cao
- (b) **Answer: 3750 ml**

Question 4

- **B1** 600 g cao
- **Answer: 600 g**

Question 5

- **B1** 1.35 pounds cao (accept 135p)
- **Answer: 1.35 pounds**

Question 6

- **B1** 95 minutes cao
- **Answer: 95 minutes**

Question 7

- **B1** 8:15 pm oe
- **Answer: 8:15 pm**

Question 8

- **M1** $120 + 74 = 194$ (cm) seen, using consistent units (oe)
- **A1** 1.94 m cao
- **Answer: 1.94 m**

Question 9

- (a) **B1** 4 kg cao
- (a) **Answer: 4 kg**
- (b) **B1** 48 kg cao
- (b) **Answer: 48 kg**

Question 10

- **M1** $5 \times 0.45 = 2.25$ seen
- **M1** $3 \times 1.05 = 3.15$ seen
- **A1** 6.75 cao
- **Answer: 6.75 pounds**

Question 11

- (a) **B1** 08:18 cao
- (a) **Answer: 08:18**
- (b) **M1** Identifies the next departure after 07:55 as 08:00
- (b) **A1** 5 minutes cao
- (b) **Answer: 5 minutes**

Question 12

- **M1** Converts 1 hour 45 minutes to 1.75 hours (oe)
- **A1** 26.25 km cao
- **Answer: 26.25 km**

Question 13

- **M1** $98 / 70$ (oe)
- **A1** 1 hour 24 minutes oe
- **Answer: 1 hour 24 minutes**

Question 14

- **M1** $2 \times (38 + 22) = 120$ (m) seen (perimeter method)
- **M1** 120×4.20 (oe, ft)
- **A1** 504.00 pounds cao (ft)
- **Answer: 504.00 pounds**

Question 15

- **M1** $4500 / 600$ (oe, converts litres to ml)
- **A1** 7 cao
- **Answer: 7 bottles**

Question 16

- (a) **M1** $3.60 / 2$ and $4.25 / 2.5$ (oe method for both)
- (a) **A1** Shop A = 1.80 pounds/kg and Shop B = 1.70 pounds/kg, both cao
- (a) **Answer: Shop A 1.80 pounds/kg, Shop B 1.70 pounds/kg**
- (b) **B1** Shop B, because it has a lower cost per kg ($1.70 \text{ pounds} < 1.80 \text{ pounds}$), ft from (a)
- (b) **Answer: Shop B**

Question 17

- (a) **M1** Adds 1 hour 20 minutes to 22:40 to reach 00:00 the next day, or a complete equivalent method
- (a) **A1** 02:55 cao
- (a) **Answer: 02:55**
- (b) **B1** 2:55 am oe, ft
- (b) **Answer: 2:55 am**

Question 18

- (a) **M1** Converts 480 g to 0.48 kg (oe)
- (a) **A1** 2.40 pounds cao
- (a) **Answer: 2.40 pounds**
- (b) **M1** 5.00 - their (a) (ft)
- (b) **A1** 2.60 pounds cao (ft)
- (b) **Answer: 2.60 pounds**

Question 19

- **M1** Converts all four lengths to a common unit, e.g. cm: 110, 85, 90, 103 (oe)
- **A1** 85 cm, 900 mm, 1 m 3 cm, 1.1 m cao
- **Answer: 85 cm, 900 mm, 1 m 3 cm, 1.1 m**

Question 20

- (a) **B1** 30 minutes for the home to Aldbury leg
- (a) **B1** 1 hour 30 minutes for the Aldbury to Bishton leg
- **(a) Answer: Home to Aldbury: 30 minutes; Aldbury to Bishton: 1 hour 30 minutes**
- (b) **M1** Average speed = total distance / total time, ft (e.g. $(30 + 72) / 2$)
- (b) **A1** 51 km/h cao
- **(b) Answer: 51 km/h**
- (c) **M1** Adds the total journey time to 12:45, ft (e.g. $12:45 + 2:00 = 14:45$)
- (c) **A1** Yes, with correct reason ft (14:45 is before 15:30, so he arrives with 45 minutes to spare)
- **(c) Answer: Yes; he arrives at 14:45, which is 45 minutes before 15:30.**

Question 21

- (a) **B1** 07:46 cao
- **(a) Answer: 07:46**
- (b) **B1** No, ft from (a)
- (b) **B1** Correct reason: the coach now arrives at 07:46, which is 6 minutes after the train has already departed at 07:40
- **(b) Answer: No; the coach now arrives at 07:46, 6 minutes after the train has already left at 07:40.**
- (c) **M1** Finds the original train's journey time is $08:22 - 07:40 = 42$ minutes
- (c) **A1** 09:02 cao
- **(c) Answer: 09:02**

Question 22

- (a) **M1** 10% of 75 = 7.50 and 8% = 6.00, so 18% = 13.50 (oe method)
- (a) **A1** 61.50 cao
- **(a) Answer: 61.50 pounds**
- (b) **M1** $4 \times 20 = 80$ (oe) and $80 -$ their (a), ft
- (b) **A1** 18.50 cao (ft)
- **(b) Answer: 18.50 pounds**

Question 23

- (a) **M1** $450 / 30$ (oe)
- (a) **A1** 15 litres per minute cao
- **(a) Answer: 15 litres per minute**
- (b) **M1** $600 / 15$ (oe, using their rate ft from part a)
- (b) **A1** 40 minutes cao
- **(b) Answer: 40 minutes**

Question 24

- (a) **M1** $126 / 63$ (oe)
- (a) **A1** 2 hours oe
- (a) **Answer: 2 hours**
- (b) **M1** Adds the 25 minute break to their (a), ft, giving 2 hours 25 minutes
- (b) **M1** Subtracts their total time from 16:00, ft
- (b) **A1** 13:35 cao (ft)
- (b) **Answer: 13:35**
- (c) **M1** 126×0.15 (oe)
- (c) **A1** 18.90 pounds cao
- (c) **Answer: 18.90 pounds**