



EP.M151 CSSE Essex Style Maths Paper 3

CSSE CSSE-MOCK-3 · Calculators not allowed · about 75 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

1 A rectangular flower bed is 6.4 m long and 2.15 m wide.

(a) Work out the area of the flower bed in square metres. Give your answer correct to two decimal places. (1)

.....

(b) A path 0.5 m wide is built all the way around the outside of the flower bed. Find the area of the path alone, to two decimal places. (1)

.....

(Total for Question 1 is 2 marks)

2 A recipe for fruit salad needs $\frac{3}{4}$ of a kilogram of apples and $\frac{2}{5}$ of a kilogram of grapes.

(a) Work out the total mass of apples and grapes used, in kilograms. (2)

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(b) If the recipe makes 5 equal portions, what mass of fruit does each portion contain? Give your answer in grams. (1)

.....

(Total for Question 2 is 3 marks)

3 The numbers on a spinner are 2, 4, 6, 8. The spinner is fair.

(a) Find the probability that one spin gives an even number greater than 4. (1)

.....

(b) Two independent spins are made. Find the probability the first spin shows 2 and the second shows 8. (1)

.....

(c) Three independent spins are made. What is the probability of getting three numbers greater than 4 in a row? (2)

.....

(Total for Question 3 is 4 marks)

4 A bus ticket costs £1.80 for a single and £3.00 for a return (same day).

(a) If Sara makes 8 single journeys in a week, how much does she spend on single tickets? (1)

.....

(b) Each return ticket covers an outward and a return trip, so 1 return covers 2 of Sara's journeys. Find the smallest number of return tickets she could buy to cover all 8 of her journeys, and show that buying returns this way is cheaper than buying 8 singles. (2)

.....

(c) If Sara needs to make 9 journeys, what is the cheapest combination of singles and returns and the total cost? (2)

.....

(Total for Question 4 is 5 marks)

Mark scheme · EP.M151 CSSE Essex Style Maths Paper 3

Question 1

- (a) **B1** 13.76 m^2 cao
- (a) **Answer: 13.76 m^2**
- (b) **B1** 9.55 m^2 cao
- (b) **Answer: 9.55 m^2**

Question 2

- (a) **M1** Method: convert to common denominator or to decimals to add $3/4 + 2/5$ seen
- (a) **A1** Total $23/20 = 1.15 \text{ kg}$ cao
- (a) **Answer: 1.15 kg**
- (b) **B1** 230 g each cao
- (b) **Answer: 230 g**

Question 3

- (a) **B1** 2 favourable outcomes (6,8) out of 4 so $1/2$ cao
- (a) **Answer: $1/2$**
- (b) **B1** Multiply $1/4 \times 1/4 = 1/16$ cao
- (b) **Answer: $1/16$**
- (c) **M1** Recognise each spin has probability $2/4 = 1/2$ of landing greater than 4
- (c) **A1** Final answer $1/8$ cao
- (c) **Answer: $1/8$**

Question 4

- (a) **B1** $\text{£}14.40$ cao
- (a) **Answer: $\text{£}14.40$**
- (b) **M1** Number of returns needed for 8 journeys: $n = 8 / 2 = 4$ seen
- (b) **A1** 4 returns cost $4 \times \text{£}3.00 = \text{£}12.00$, which is less than $\text{£}14.40$ (8 singles) cao
- (b) **Answer: 4 returns**
- (c) **M1** Method: consider combinations, e.g. 4 returns (8 journeys) + 1 single, or 5 returns, compare costs
- (c) **A1** Cheapest: 4 returns + 1 single costing $\text{£}12.00 + \text{£}1.80 = \text{£}13.80$ cao
- (c) **Answer: 4 returns and 1 single, total $\text{£}13.80$**