2.105 Probability Scale and Simple Outcomes: 10-minute Pack

Total Marks

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Which point on a probability scale from 0 to 1 shows an event that is certain to happen?

- ☐ A) 0
- ☐ B) 0.25
- ☐ C) 0.5
- ☐ D) 0.75
- ☐ E) 1

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2 The probabilities of red and blue are 0.3 and 0.2. Only one other outcome (green) is possible. What is its probability?

- ☐ A) 0.4
- ☐ B) 0.8
- ☐ C) 0.7
- ☐ D) 0.5
- ☐ E) 0.6

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3 A jar contains 7 red, 2 blue marbles. One is picked at random. What is the probability that it is red?

- ☐ A) 1/9
- ☐ B) 1/2
- ☐ C) 7/9
- ☐ D) 2/9
- ☐ E) 7/2

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4 A jar contains 11 black, 6 purple, 11 green marbles. One is picked at random. What is the probability that it is black?

- [ ] A) 11/28
- [ ] B) 1/3
- [ ] C) 1/28
- [ ] D) 11/17
- [ ] E) 17/28

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5 The probability of a spinner landing on red is 1/2. The spinner is spun 18 times. How many times would you expect it to land on red?

- [ ] A) 10
- [ ] B) 9
- [ ] C) 18
- [ ] D) 8
- [ ] E) 36

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6 A jar contains 9 white, 2 orange marbles. One is picked at random. What is the probability that it is white?

- [ ] A) 9/11
- [ ] B) 2/11
- [ ] C) 1/11
- [ ] D) 3/4
- [ ] E) 9/2

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7 A box contains 12 orange, 6 purple cubes. One is picked at random. What is the probability that it is not orange?

- [ ] A) 1/2
- [ ] B) 1/18
- [ ] C) 1/3
- [ ] D) 2
- [ ] E) 2/3

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8 The probabilities of red, blue and green are 0.3, 0.4 and 0.1. Only one other outcome (yellow) is possible. What is its probability?

- ☐ A) 0.8
- ☐ B) 0.9
- ☐ C) 0.1
- ☐ D) 0.2
- ☐ E) 0.3

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9 A bag contains 4 red, 1 blue and 5 green counters. One counter is drawn at random. Calculate the probability that the counter is not green. Give your answer in simplest form.

(3)

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Mark scheme · 2.105 Probability Scale and Simple Outcomes: 10-minute Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

correct option E (1) cao **B1**

Answer: E) 1 (certain event).

Question 2

correct option D (0.5) cao **B1**

Answer: D) 0.5

Question 3

correct option C (7/9) cao **B1**

Answer: C) 7/9

Question 4

correct option A (11/28) cao **B1**

Answer: A) 11/28

Question 5

correct option B (9) cao **B1**

Answer: B) 9

Question 6

correct option A (9/11) cao **B1**

Answer: A) 9/11

Question 7

correct option C (1/3) cao **B1**

Answer: C) 1/3

Question 8

correct option D (0.2) cao **B1**

Answer: D) 0.2

Question 9

method: count not green as 4 + 1 = 5 **M1**

method: total counters seen as 10 (4 + 1 + 5) **M1**

5/10 simplified to 1/2 cao **A1**

Answer: 1/2 (one half).

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