2.105 Probability Scale and Simple Outcomes: 1-hour Pack

Total Marks

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A box contains 5 green, 8 orange cubes. One is picked at random. What is the probability that it is green?

- ☐ A) 5/14
- ☐ B) 5/8
- ☐ C) 5/13
- ☐ D) 8/13
- ☐ E) 1/13

---

2 A jar contains 1 orange, 9 blue marbles. One is picked at random. What is the probability that it is orange?

- ☐ A) 1/10
- ☐ B) 1/9
- ☐ C) 1/11
- ☐ D) 1/2
- ☐ E) 9/10

---

3 The probability of a player scoring a penalty is 3/5. A player takes 10 penalties. How many penalties would you expect to be scored?

- ☐ A) 30
- ☐ B) 6
- ☐ C) 4
- ☐ D) 5
- ☐ E) 2

© Revision Library | revisionlibrary.co.uk

4 A box contains 11 blue, 6 white, 12 yellow cubes. One is picked at random. What is the probability that it is blue?

- [ ] A) 18/29
- [ ] B) 11/30
- [ ] C) 11/29
- [ ] D) 11/18
- [ ] E) 1/29

---

5 A bag contains 3 green, 6 purple counters. One is picked at random. What is the probability that it is purple?

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

---

6 The probability of a player scoring a penalty is 3/4. A player takes 68 penalties. How many penalties would you expect to be scored?

- [ ] A) 204
- [ ] B) 52
- [ ] C) 50
- [ ] D) 51
- [ ] E) 17

---

7 The probability of a seed growing is 3/4. 76 seeds are planted. How many seeds would you expect to grow?

- [ ] A) 58
- [ ] B) 228
- [ ] C) 57
- [ ] D) 19
- [ ] E) 56

© Revision Library | revisionlibrary.co.uk

8 A bag contains 8 purple, 8 blue, 1 red sweets. One is picked at random. What is the probability that it is not purple?

- [ ] A) 8/17
- [ ] B) 9/17
- [ ] C) 9/8
- [ ] D) 1/17
- [ ] E) 1/2

---

9 The probability of a player scoring a penalty is 3/4. A player takes 28 penalties. How many penalties would you expect to be scored?

- [ ] A) 22
- [ ] B) 84
- [ ] C) 20
- [ ] D) 7
- [ ] E) 21

---

10 A jar contains 2 green, 6 blue marbles. One is picked at random. What is the probability that it is not green?

- [ ] A) 1/8
- [ ] B) 3/4
- [ ] C) 1/4
- [ ] D) 3
- [ ] E) 1/3

---

11 The probabilities of win, draw and lose are 0.1, 0.3 and 0.4. Only one other outcome (abandoned) is possible. What is its probability?

- [ ] A) 0.3
- [ ] B) 0.6
- [ ] C) 0.9
- [ ] D) 0.2
- [ ] E) 0.8

© Revision Library | revisionlibrary.co.uk

12 A jar contains 9 white, 3 blue marbles. One is picked at random. What is the probability that it is not white?

- [ ] A) 1/4
- [ ] B) 3
- [ ] C) 1/3
- [ ] D) 1/12
- [ ] E) 3/4

---

13 The probability of a player scoring a penalty is 3/4. A player takes 44 penalties. How many penalties would you expect to be scored?

- [ ] A) 11
- [ ] B) 132
- [ ] C) 33
- [ ] D) 32
- [ ] E) 34

---

14 The probability of a player scoring a penalty is 3/5. A player takes 25 penalties. How many penalties would you expect to be scored?

- [ ] A) 14
- [ ] B) 5
- [ ] C) 15
- [ ] D) 10
- [ ] E) 16

---

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

- [ ] A) 1/2
- [ ] B) 3/5
- [ ] C) 3/2
- [ ] D) 2/5
- [ ] E) 1/5

© Revision Library | revisionlibrary.co.uk

16 The probability of a spinner landing on red is 1/3. The spinner is spun 30 times. How many times would you expect it to land on red?

- [ ] A) 9
- [ ] B) 20
- [ ] C) 30
- [ ] D) 90
- [ ] E) 10

---

17 The probabilities of win, draw and lose are 0.2, 0.1 and 0.4. Only one other outcome (abandoned) is possible. What is its probability?

- [ ] A) 0.7
- [ ] B) 0.6
- [ ] C) 0.4
- [ ] D) 0.3
- [ ] E) 0.2

---

18 A box contains 5 yellow, 8 red cubes. One is picked at random. What is the probability that it is red?

- [ ] A) 4/7
- [ ] B) 1/13
- [ ] C) 8/13
- [ ] D) 8/5
- [ ] E) 5/13

---

19 The probabilities of win, draw and lose are 0.3, 0.2 and 0.3. Only one other outcome (abandoned) is possible. What is its probability?

- [ ] A) 0.1
- [ ] B) 0.3
- [ ] C) 0.7
- [ ] D) 0.8
- [ ] E) 0.2

© Revision Library | revisionlibrary.co.uk

20 The probability of a seed growing is 1/5. 65 seeds are planted. How many seeds would you expect to grow?

- [ ] A) 325
- [ ] B) 13
- [ ] C) 12
- [ ] D) 14
- [ ] E) 52

---

21 A jar contains 2 white, 5 purple marbles. One is picked at random. What is the probability that it is white?

- [ ] A) 2/7
- [ ] B) 1/2
- [ ] C) 2/5
- [ ] D) 1/7
- [ ] E) 5/7

---

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

- [ ] A) 0.6
- [ ] B) 0.3
- [ ] C) 0.2
- [ ] D) 0.4
- [ ] E) 0.7

---

23 A box contains 8 purple, 8 blue, 4 red cubes. One is picked at random. What is the probability that it is not purple?

- [ ] A) 2/5
- [ ] B) 3/2
- [ ] C) 4/7
- [ ] D) 2/3
- [ ] E) 3/5

© Revision Library | revisionlibrary.co.uk

24 The probability of a seed growing is 4/5. 85 seeds are planted. How many seeds would you expect to grow?

- [ ] A) 340
- [ ] B) 69
- [ ] C) 68
- [ ] D) 67
- [ ] E) 17

---

25 A bag contains 4 white, 6 green sweets. One is picked at random. What is the probability that it is green?

- [ ] A) 3/2
- [ ] B) 1/10
- [ ] C) 6/11
- [ ] D) 3/5
- [ ] E) 2/5

---

26 The probabilities of rain, snow and sunshine are 0.2, 0.1 and 0.3. Only one other outcome (fog) is possible. What is its probability?

- [ ] A) 0.4
- [ ] B) 0.5
- [ ] C) 0.3
- [ ] D) 0.6
- [ ] E) 0.8

---

27 The probabilities of win, draw and lose are 0.3, 0.2 and 0.4. Only one other outcome (abandoned) is possible. What is its probability?

- [ ] A) 0.7
- [ ] B) 0.2
- [ ] C) 0.9
- [ ] D) 0.1
- [ ] E) 0.6

© Revision Library | revisionlibrary.co.uk

28 A bag contains 7 yellow, 2 green sweets. One is picked at random. What is the probability that it is not yellow?

- [ ] A) 2/7
- [ ] B) 1/5
- [ ] C) 7/9
- [ ] D) 7/2
- [ ] E) 2/9

---

29 The probability of a seed growing is 3/4. 64 seeds are planted. How many seeds would you expect to grow?

- [ ] A) 49
- [ ] B) 16
- [ ] C) 48
- [ ] D) 47
- [ ] E) 192

---

30 Which decimal is equal to the probability 1/5?

- [ ] A) 0.2
- [ ] B) 0.25
- [ ] C) 0.4
- [ ] D) 0.05
- [ ] E) 2.0

---

31 The probability of a spinner landing on red is 5/6. The spinner is spun 120 times. How many times would you expect it to land on red?

- [ ] A) 144
- [ ] B) 101
- [ ] C) 100
- [ ] D) 99
- [ ] E) 20

© Revision Library | revisionlibrary.co.uk

32 A jar contains 5 white, 6 yellow, 9 green marbles. One is picked at random. What is the probability that it is not green?

- [ ] A) 11/20
- [ ] B) 11/9
- [ ] C) 9/20
- [ ] D) 1/20
- [ ] E) 11/21

---

33 A bag contains 5 green, 14 black sweets. One is picked at random. What is the probability that it is not green?

- [ ] A) 1/19
- [ ] B) 5/14
- [ ] C) 5/19
- [ ] D) 14/5
- [ ] E) 14/19

---

34 The probability of a seed growing is 1/4. 76 seeds are planted. How many seeds would you expect to grow?

- [ ] A) 304
- [ ] B) 57
- [ ] C) 20
- [ ] D) 19
- [ ] E) 18

---

35 A bag contains 5 red, 13 orange counters. One is picked at random. What is the probability that it is orange?

- [ ] A) 5/18
- [ ] B) 1/18
- [ ] C) 13/18
- [ ] D) 13/5
- [ ] E) 13/19

© Revision Library | revisionlibrary.co.uk

36 The probability of a player scoring a penalty is 1/6. A player takes 72 penalties. How many penalties would you expect to be scored?

- [ ] A) 13
- [ ] B) 12
- [ ] C) 11
- [ ] D) 432
- [ ] E) 60

---

37 A bag contains 5 blue, 9 white, 9 orange counters. One is picked at random. What is the probability that it is blue?

- [ ] A) 5/23
- [ ] B) 5/24
- [ ] C) 18/23
- [ ] D) 5/18
- [ ] E) 1/23

---

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

- [ ] A) 0.2
- [ ] B) 0.4
- [ ] C) 0.8
- [ ] D) 0.7
- [ ] E) 0.3

---

39 A box contains 4 green, 14 orange, 8 purple cubes. One is picked at random. What is the probability that it is green?

- [ ] A) 2/13
- [ ] B) 4/27
- [ ] C) 11/13
- [ ] D) 2/11
- [ ] E) 1/26

© Revision Library | revisionlibrary.co.uk

40 A bag contains 2 purple, 4 blue, 8 red counters. One is picked at random. What is the probability that it is not blue?

- [ ] A) 2/7
- [ ] B) 5/2
- [ ] C) 5/7
- [ ] D) 2/3
- [ ] E) 2/5

---

41 The probabilities of rain and snow are 0.2 and 0.2. Only one other outcome (sunshine) is possible. What is its probability?

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

---

42 A box contains 5 orange, 9 black, 7 green cubes. One is picked at random. What is the probability that it is orange?

- [ ] A) 16/21
- [ ] B) 5/16
- [ ] C) 1/21
- [ ] D) 1/3
- [ ] E) 5/21

---

43 A jar contains 6 black, 8 blue, 6 white marbles. One is picked at random. What is the probability that it is white?

- [ ] A) 7/10
- [ ] B) 3/7
- [ ] C) 1/3
- [ ] D) 3/10
- [ ] E) 1/20

© Revision Library | revisionlibrary.co.uk

44 The probability of a seed growing is 7/8. 32 seeds are planted. How many seeds would you expect to grow?

- [ ] A) 27
- [ ] B) 28
- [ ] C) 224
- [ ] D) 29
- [ ] E) 4

---

45 A bag contains 2 green, 8 black counters. One is picked at random. What is the probability that it is black?

- [ ] A) 1/5
- [ ] B) 4
- [ ] C) 4/5
- [ ] D) 8/11
- [ ] E) 1/10

---

46 A box contains 3 blue, 7 black cubes. One is picked at random. What is the probability that it is not blue?

- [ ] A) 7/11
- [ ] B) 7/10
- [ ] C) 7/3
- [ ] D) 3/7
- [ ] E) 3/10

---

47 A fair coin is flipped once. What is the probability of getting heads?

- [ ] A) 0
- [ ] B) 1/4
- [ ] C) 1/2
- [ ] D) 3/4
- [ ] E) 1

© Revision Library | revisionlibrary.co.uk

48 The probability of a seed growing is 9/10. 160 seeds are planted. How many seeds would you expect to grow?

- [ ] A) 1,440
- [ ] B) 16
- [ ] C) 143
- [ ] D) 145
- [ ] E) 144

---

49 A box contains 3 green, 4 red cubes. One is picked at random. What is the probability that it is not green?

- [ ] A) 4/3
- [ ] B) 3/4
- [ ] C) 4/7
- [ ] D) 1/7
- [ ] E) 3/7

---

50 The probabilities of rain, snow and sunshine are 0.4, 0.3 and 0.1. Only one other outcome (fog) is possible. What is its probability?

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

---

51 A jar contains 6 yellow, 7 orange marbles. One is picked at random. What is the probability that it is orange?

- [ ] A) 7/13
- [ ] B) 1/2
- [ ] C) 1/13
- [ ] D) 6/13
- [ ] E) 7/6

© Revision Library | revisionlibrary.co.uk

52 The probability of a spinner landing on red is 1/10. The spinner is spun 50 times. How many times would you expect it to land on red?

- [ ] A) 50
- [ ] B) 4
- [ ] C) 500
- [ ] D) 45
- [ ] E) 5

---

53 The probability of a seed growing is 2/5. 100 seeds are planted. How many seeds would you expect to grow?

- [ ] A) 200
- [ ] B) 60
- [ ] C) 20
- [ ] D) 40
- [ ] E) 41

---

54 A bag contains 9 orange, 2 white counters. One is picked at random. What is the probability that it is white?

- [ ] A) 1/2
- [ ] B) 2/9
- [ ] C) 2/11
- [ ] D) 1/6
- [ ] E) 9/11

---

55 The probabilities of win, draw and lose are 0.1, 0.3 and 0.2. Only one other outcome (abandoned) is possible. What is its probability?

- [ ] A) 0.3
- [ ] B) 0.4
- [ ] C) 0.8
- [ ] D) 0.5
- [ ] E) 0.6

© Revision Library | revisionlibrary.co.uk

56 A bag contains 1 purple, 8 white sweets. One is picked at random. What is the probability that it is not white?

- [ ] A) 8
- [ ] B) 8/9
- [ ] C) 1/10
- [ ] D) 1/8
- [ ] E) 1/9

---

57 The probabilities of red, blue and green are 0.4, 0.2 and 0.3. Only one other outcome (yellow) is possible. What is its probability?

- [ ] A) 0.1
- [ ] B) 0.6
- [ ] C) 0.7
- [ ] D) 0.2
- [ ] E) 0.9

---

58 A jar contains 1 yellow, 3 green marbles. One is picked at random. What is the probability that it is yellow?

- [ ] A) 1/3
- [ ] B) 3/4
- [ ] C) 1/2
- [ ] D) 1/4
- [ ] E) 1/5

---

59 A bag contains 3 white, 5 purple sweets. One is picked at random. What is the probability that it is white?

- [ ] A) 1/2
- [ ] B) 3/5
- [ ] C) 5/8
- [ ] D) 1/3
- [ ] E) 3/8

© Revision Library | revisionlibrary.co.uk

60 The probability of a spinner landing on red is 1/5. The spinner is spun 75 times. How many times would you expect it to land on red?

- ☐ A) 75
- ☐ B) 16
- ☐ C) 15
- ☐ D) 60
- ☐ E) 375

---

61 A box contains 2 yellow, 4 purple cubes. One is picked at random. What is the probability that it is purple?

- ☐ A) 2/3
- ☐ B) 1/2
- ☐ C) 2
- ☐ D) 1/3
- ☐ E) 4/7

---

62 The probability of a spinner landing on red is 1/2. The spinner is spun 14 times. How many times would you expect it to land on red?

- ☐ A) 14
- ☐ B) 28
- ☐ C) 6
- ☐ D) 7
- ☐ E) 8

---

63 Two fair six-sided dice are rolled. What is the probability that both dice show even numbers?

(2)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 2.105 Probability Scale and Simple Outcomes: 1-hour Pack

Question 1

correct option C (5/13) cao **B1**

Answer: C) 5/13

Question 2

correct option A (1/10) cao **B1**

Answer: A) 1/10

Question 3

correct option B (6) cao **B1**

Answer: B) 6

Question 4

correct option C (11/29) cao **B1**

Answer: C) 11/29

Question 5

correct option E (2/3) cao **B1**

Answer: E) 2/3

Question 6

correct option D (51) cao **B1**

Answer: D) 51

Question 7

correct option C (57) cao **B1**

Answer: C) 57

Question 8

correct option B (9/17) cao **B1**

Answer: B) 9/17

Question 9

correct option E (21) cao **B1**

Answer: E) 21

Question 10

correct option B (3/4) cao **B1**

Answer: B) 3/4

Question 11

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

Answer: D) 0.2

Question 12

correct option A (1/4) cao **B1**

Answer: A) 1/4

Question 13

correct option C (33) cao **B1**

Answer: C) 33

Question 14

correct option C (15) cao **B1**

Answer: C) 15

Question 15

correct option B (3/5) cao **B1**

Answer: B) 3/5

Question 16

correct option E (10) cao **B1**

Answer: E) 10

Question 17

correct option D (0.3) cao **B1**

Answer: D) 0.3

Question 18

correct option C (8/13) cao **B1**

Answer: C) 8/13

Question 19

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

Answer: E) 0.2

Question 20

correct option B (13) cao **B1**

Answer: B) 13

Question 21

correct option A (2/7) cao **B1**

Answer: A) 2/7

Question 22

correct option B (0.3) cao **B1**

Answer: B) 0.3

Question 23

correct option E (3/5) cao **B1**

Answer: E) 3/5

Question 24

correct option C (68) cao **B1**

Answer: C) 68

Question 25

correct option D (3/5) cao **B1**

Answer: D) 3/5

Question 26

correct option A (0.4) cao **B1**

Answer: A) 0.4

Question 27

correct option D (0.1) cao **B1**

Answer: D) 0.1

Question 28

correct option E (2/9) cao **B1**

Answer: E) 2/9

© Revision Library | revisionlibrary.co.uk

Question 29

correct option C (48) cao **B1**

Answer: C) 48

Question 30

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

Answer: A) 0.2

Question 31

correct option C (100) cao **B1**

Answer: C) 100

Question 32

correct option A (11/20) cao **B1**

Answer: A) 11/20

Question 33

correct option E (14/19) cao **B1**

Answer: E) 14/19

Question 34

correct option D (19) cao **B1**

Answer: D) 19

Question 35

correct option C (13/18) cao **B1**

Answer: C) 13/18

Question 36

correct option B (12) cao **B1**

Answer: B) 12

Question 37

correct option A (5/23) cao **B1**

Answer: A) 5/23

Question 38

correct option E (0.3) cao **B1**

Answer: E) 0.3

Question 39

correct option A (2/13) cao **B1**

Answer: A) 2/13

Question 40

correct option C (5/7) cao **B1**

Answer: C) 5/7

Question 41

correct option B (0.6) cao **B1**

Answer: B) 0.6

Question 42

correct option E (5/21) cao **B1**

Answer: E) 5/21

Question 43

correct option D (3/10) cao **B1**

Answer: D) 3/10

Question 44

correct option B (28) cao **B1**

Answer: B) 28

Question 45

correct option C (4/5) cao **B1**

Answer: C) 4/5

Question 46

correct option B (7/10) cao **B1**

Answer: B) 7/10

Question 47

correct option C (1/2) cao **B1**

Answer: C) 1/2

Question 48

correct option E (144) cao **B1**

Answer: E) 144

Question 49

correct option C (4/7) cao **B1**

Answer: C) 4/7

Question 50

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

Answer: D) 0.2

Question 51

correct option A (7/13) cao **B1**

Answer: A) 7/13

Question 52

correct option E (5) cao **B1**

Answer: E) 5

Question 53

correct option D (40) cao **B1**

Answer: D) 40

Question 54

correct option C (2/11) cao **B1**

Answer: C) 2/11

Question 55

correct option B (0.4) cao **B1**

Answer: B) 0.4

Question 56

correct option E (1/9) cao **B1**

Answer: E) 1/9

Question 57

correct option A (0.1) cao **B1**

Answer: A) 0.1

Question 58

correct option D (1/4) cao **B1**

Answer: D) 1/4

© Revision Library | revisionlibrary.co.uk

Question 59

correct option E (3/8) cao **B1**

Answer: E) 3/8

Question 60

correct option C (15) cao **B1**

Answer: C) 15

Question 61

correct option A (2/3) cao **B1**

Answer: A) 2/3

Question 62

correct option D (7) cao **B1**

Answer: D) 7

Question 63

method: probability one die even = 3/6 = 1/2 **M1**

both even = 1/2 x 1/2 = 1/4 cao **A1**

Answer: 1/4

© Revision Library | revisionlibrary.co.uk