

KS3 – Basic Probability – Answers

Section A – Probability Scale

Q1

- a) Impossible
- b) Unlikely
- c) Even chance
- d) Likely
- e) Certain

Q2

- a) 0
- b) 1
- c) 0.5
- d) 0.3
- e) 0.75

Q3

- a) Impossible
- b) Certain
- c) Even chance
- d) Even chance
- e) Unlikely

Q4

- a) 0
- b) 1
- c) No. Probabilities cannot be greater than 1.
- d) No. Probabilities cannot be negative.

Q5

Correct probability scale from 0 to 1 with 0.25, 0.5, 0.7 and 0.9 positioned correctly.

Section B – Experimental & Theoretical Probability

Q6

- a) $1/6$
- b) $3/6 = 1/2$
- c) $2/6 = 1/3$
- d) $5/6$
- e) 1

Q7

- a) 10
- b) $5/10 = 1/2$
- c) $3/10$
- d) $2/10 = 1/5$
- e) $8/10 = 4/5$

Q8

- a) $3/8$
- b) $2/8 = 1/4$
- c) $3/8$
- d) $5/8$

Q9

- a) 34
- b) $46/80 = 23/40 = 0.575$
- c) $34/80 = 17/40 = 0.425$
- d) $1/2 = 0.5$
- e) Random variation/chance means experimental results do not have to match the theoretical probability exactly.

Q10

- a) 22
- b) $17/120$
- c) $(21 + 23 + 22)/120 = 66/120 = 11/20 = 0.55$
- d) $1/6$
- e) 4

Q11

- a) $58/200 = 0.29$
- b) $0.3 \times 200 = 60$

- c) 58 were observed, which is 2 fewer than the expected 60.
- d) Experimental results vary because of chance/random variation.

Q12

- a) $1 - 0.35 - 0.4 = 0.25$
- b) Blue
- c) Yellow
- d) $0.35 \times 20 = 7$
- e) $0.25 \times 20 = 5$