UNIT 21 Probability of One Event Mental Tests

M 21.1 Standard Route *(no calculator)*

1. When you roll a fair dice, what is the probability of obtaining a 5 ? $(\frac{1}{6})$

2. If you toss a fair coin 80 times, how many heads will you expect to get? (40)

3. If you roll a fair dice 60 times, how many times will you expect to get a 3 ? (10)

4. The probability that it will rain tomorrow is 0.3. What is the probability that it will *not* rain tomorrow? (0.7)

You will need the Diagram Sheet for the following questions

5. Look at the spinner diagram. What is the probability of obtaining:
   (a) 1, $(\frac{1}{2})$
   (b) an odd number, $(\frac{2}{3})$
   (c) an even number? $(\frac{1}{3})$

6. Look at the probability line.
   (a) Which event is *certain* ? (F)
   (b) Which event is *impossible*? (A)

7. Look at the diagram of the bag of balls. If you take out one ball at random, what is the probability that it is *yellow*? $(\frac{1}{4})$

UNIT 21 Probability of One Event Mental Tests

M 21.2 Academic Route *(no calculator)*

You will need the Diagram Sheet for questions 1-3

1. Look at the spinner. What is the probability of obtaining:

   (a) an odd number, $(\frac{2}{3})$

   (b) a prime number? $(\frac{1}{2})$

2. Look at the probability line.

   (a) Which event could be 'tossing a fair coin and obtaining a head' ? (D)

   (b) Which event could be 'rolling a fair dice and getting a 2' ? (B)

   (c) Which event is most likely, but not certain ? (E)

3. Look at the bag of balls diagram. A ball is taken at random from the bag.
   What is the probability that it is:

   (a) red, $(\frac{5}{12})$

   (b) red *or* yellow, $(\frac{2}{3})$

   (c) *not* yellow? $(\frac{3}{4})$

4. If you roll a fair dice 72 times, how many 6s will you expect to get? (12)

5. The probability that it will snow today is 0.0001.
   What is the probability that it will *not* snow today? (0.9999)

UNIT 21 Probability of One Event Mental Tests

M 21.3 Express Route *(no calculator)*

You will need the Diagram Sheet for questions 1-3

1. Look at the spinner. What is the probability of obtaining a prime number? $(\frac{1}{2})$

2. Look at the probability line.
   (a) Which event could be 'getting a number greater than 2 when you roll a fair dice' ? (E)
   (b) Which event is most unlikely, but not impossible? (B)

3. Look at the bag of balls diagram. A ball is taken at random from the bag.
   What is the probability that it is:
   (a) not red, $(\frac{7}{12})$
   (b) red *or* green ? $(\frac{3}{4})$

4. If you roll a fair dice 108 times, how many times will you expect to get:
   (a) 6, (18)
   (b) a number greater than 2 ? (72)

5. The probability that Sharon wins a squash match is 0.724. What is the probability that she does *not* win? (0.276)

6. The probability of a floppy disc being faulty is 0.05. If you buy 200 floppy discs, how many can you expect to be faulty? (10)

7. When you roll a fair dice, what is the probability of obtaining a number that is
   odd *and* prime? $(\frac{1}{3})$

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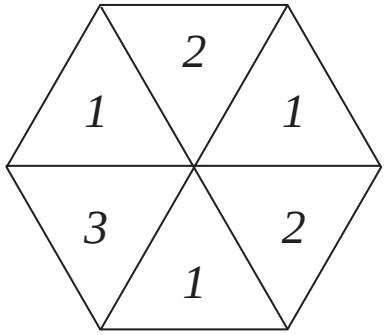
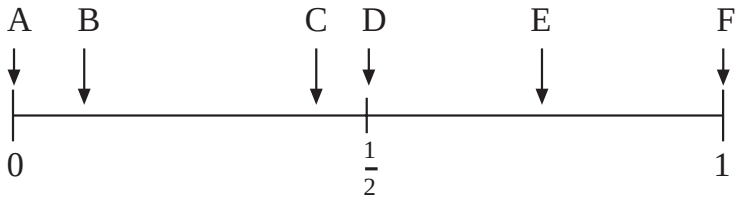
Diagram Sheet for Mental Tests

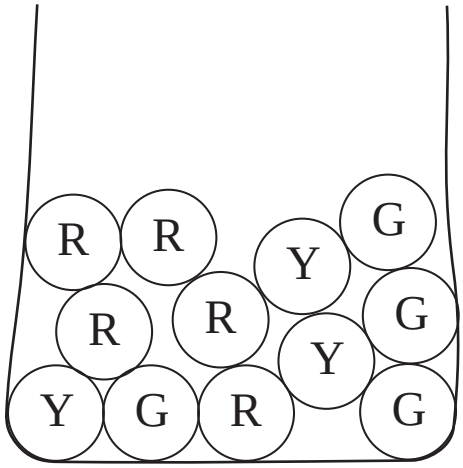
Spinner Diagram



Probability Line



Bag of Balls



G : green
R : red
Y : yellow