UNIT 6 Probability Mental Tests

M 6.1 Standard Route *(no calculator)*

What is the probability of obtaining:

1. a HEAD when tossing a fair coin, $(\frac{1}{2})$

2. a 6 when rolling a fair dice, $(\frac{1}{6})$

3. a 5 or a 6 when rolling a fair dice, $(\frac{1}{3})$

4. an *even number* when rolling a fair dice, $(\frac{1}{2})$

5. a number *less than* 4 when rolling a fair dice ? $(\frac{1}{2})$

6. A biased coin is such that $p(\text{head}) = \frac{1}{3}$.

   What is the probability of obtaining TAILS ? $(\frac{2}{3})$

Refer to Diagram A on the Information Sheet for questions 7 - 9.

What is the probability of obtaining

7. *RED*, $(\frac{1}{5})$

8. *RED* or *YELLOW*, $(\frac{2}{5})$

9. *NOT RED* ? $(\frac{4}{5})$

10. If a fair dice is rolled 12 times, how many 6s would you expect to obtain? (2)

UNIT 6 Probability Mental Tests

M 6.2 Academic Route *(no calculator)*

What is the probability of obtaining:

1. a 4 when rolling a fair dice, $(\frac{1}{6})$

2. a number *less than* 3 when rolling a fair dice, $(\frac{1}{3})$

3. a number *greater than* 3 when rolling a fair dice, $(\frac{1}{2})$

4. two HEADS when tossing a fair coin, $(\frac{1}{4})$

5. two 6s when rolling two fair dice twice ? $(\frac{1}{36})$

6. A biased coin is such that $p(\text{head}) = \frac{1}{3}$. If it is thrown twice,

   what is the probability of obtaining 2 TAILS ? $(\frac{4}{9})$

Refer to Diagram B on the Information Sheet for questions 7 - 9.

What is the probability of obtaining

7. number 5, $(\frac{3}{8})$

8. an even number, $(\frac{3}{8})$

9. a number other than number 4 ? $(\frac{3}{4})$

10. If a fair dice is rolled 120 times, how many 6s would you expect to obtain? (20)

UNIT 6 Probability Mental Tests

M 6.3 Express Route *(no calculator)*

What is the probability of obtaining:

1. a number *less than* 3 when rolling a fair dice, $(\frac{1}{3})$

2. a number *greater than* 3 when rolling a fair dice, $(\frac{1}{2})$

3. a HEAD and a TAIL when tossing two fair coins, $(\frac{1}{2})$

4. three HEADS when tossing a fair coin three times, $(\frac{1}{8})$

5. a total sum of 11 or 12 when throwing two fair dice ? $(\frac{1}{12})$

6. A biased coin is such that $p(\text{head}) = \frac{1}{3}$. If it is thrown twice,
   what is the probability of obtaining 2 TAILS ? $(\frac{4}{9})$

Refer to Diagram B on the Information Sheet for questions 7 and 8.

When the spinner is spun three times, what is the probability of obtaining:

7. two number 5s, $(\frac{9}{64})$

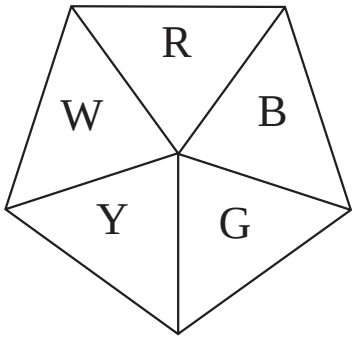
8. number 1 and number 2, in any order, $(\frac{1}{32})$

9. If a fair dice is rolled twice, what is the probability of obtaining
   an even number in both throws? $(\frac{1}{2})$

10. If a fair dice is rolled 600 times, how many 6s would you expect to obtain? (100)

UNIT 6 Probability Mental Tests

Information Sheet



KEY

R : Red

B : Blue

G : Green

Y : Yellow

W: White

Diagram A 5-sided spinner

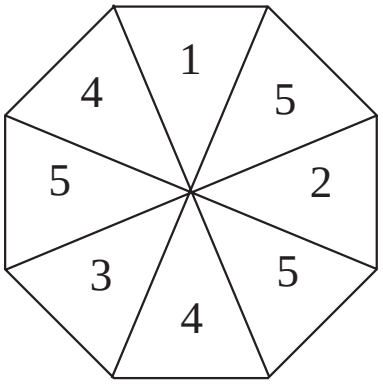


Diagram B 8-sided spinner