

Trig H
Probability Day 1

Consider the following scenarios that involve probability.

1. Given a fair coin, what is the probability of:

a. tossing heads?

$$\frac{1}{2}$$

b. tossing tails?

$$\frac{1}{2}$$

2. Given a standard, fair six-sided die, what is the probability of:

a. rolling a 2?

$$\frac{1}{6}$$

b. rolling an even number?

$$\frac{1}{2}$$

c. rolling a prime number?

$$\frac{3}{6} = \frac{1}{2}$$

d. rolling a natural number?

$$\frac{6}{6} = 1$$

e. rolling a 7?

$$0$$

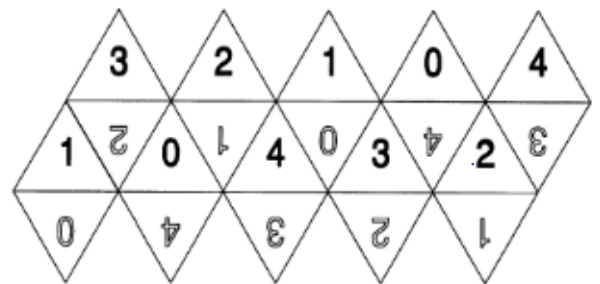
3. Given the die formed by the net shown, what is the probability of:

a. rolling a 2? $\frac{4}{20} = \frac{1}{5}$

b. rolling an even number? $\frac{12}{20} = \frac{3}{5}$

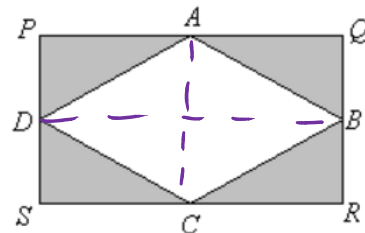
c. rolling a prime number? $\frac{8}{20} = \frac{2}{5}$

d. rolling a natural number? $\frac{16}{20} = \frac{4}{5}$



4. In Rectangle PQRS, the points A, B, C, and D are midpoints of their respective sides.

An arrow is shot at random onto the rectangle PQRS.



Find the probability that the arrow hits:

a. triangle AQB.

$$\frac{1}{8}$$

b. the shaded region.

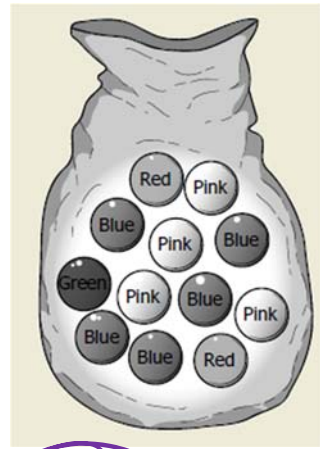
$$\frac{1}{2}$$

c. either triangle BRC or the unshaded region.

$$\frac{5}{8}$$

Your turn!

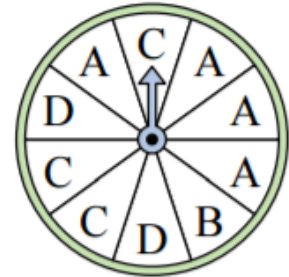
5. Use the bag of marbles at right to answer the following questions. Choose 1 marble and find...



- a. P(pink) $4/12 = 1/3$
- b. P(primary color) $8/12 = 2/3$
- c. P(orange) 0
- d. Instead of picking one marble, now pick two. Is the probability of choosing the same color twice an easy or difficult calculation to make? Explain.

easy

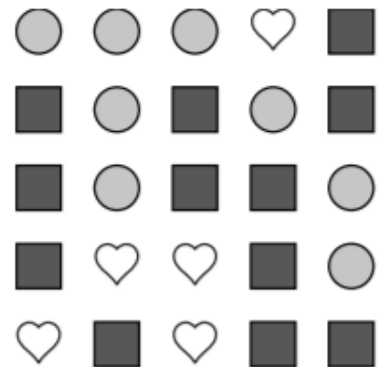
6. Use the spinner at right to answer the following questions. Spin the spinner 1 time and find...



- a. P(C) $3/10$
- b. P(vowel) $4/10 = 2/5$
- c. P(vowel or consonant) 1
- d. P(E) 0
- e. Instead of spinning the spinner 1 time, now spin it twice. Is the probability of spinning the same letter twice an easy or difficult calculation to make? Explain.

easy

7. If you selected 1 item at random from this array.....



- a. Which item is most likely to be selected? Least likely?
 Square ← Heart
- b. Express the probability of selecting a circle in three different ways. (as a fraction, as a decimal, as a %)
 $\frac{8}{25}$ 0.32 32%
- c. Which shape has a 32% chance of being chosen? Circle!