Unit 11 Day 3 Notes on Intro to Probability
Vocabulary {Key Terms to Know}

KEY

- Sample Space: the set of all possible outcomes

- Probability of an event: $\dfrac{\text{favorable outcomes}}{\text{all possible outcomes}}$ (fraction, decimal, percent)

- Probability functions and distributions:

15 total

You have a jar of marbles containing 5 red, 6 green and 4 blue marbles.

1) What is the probability of choosing a green marble?

$\dfrac{6}{15} = \boxed{\dfrac{2}{5}}$

2) What is the probability of choosing a marble that is *not* blue? $15 - 4 = 11$

$\boxed{\dfrac{11}{15}}$

You are rolling a single 6-sided die. 6 total outcomes

3) What is the probability of rolling a four?

$\boxed{\dfrac{1}{6}}$

4) What is the probability of rolling an even number? 2, 4, 6

$\dfrac{3}{6} = \boxed{\dfrac{1}{2}}$

11 total

From the letters in the word "probability" ...

5) What is the probability of choosing the letter "p"?

$\boxed{\dfrac{1}{11}}$

6) What is the probability of choosing the letter "i"?

$\boxed{\dfrac{2}{11}}$

7) What is the probability of choosing a non-vowel? p, r, b, b, l, t, y

$\boxed{\dfrac{7}{11}}$

You are playing TWISTER with your friends and are up to spin the spinner below. 16 spaces total

8) What is the probability that the spinner lands on your right foot?

$\dfrac{4}{16} = \boxed{\dfrac{1}{4}}$

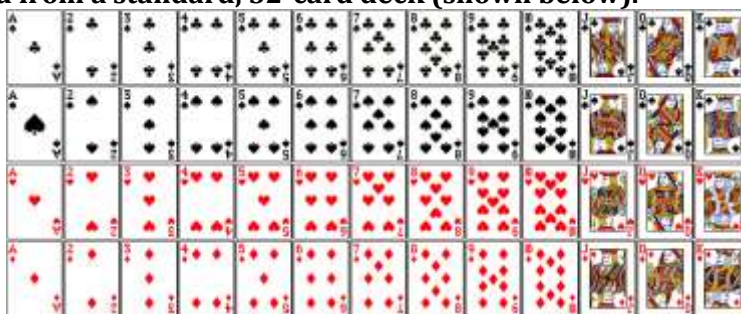9) What is the probability that the spinner lands on either hand?

$\dfrac{8}{16} = \boxed{\dfrac{1}{2}}$

10) What is the probability that the spinner lands on yellow?

$\dfrac{4}{16} = \boxed{\dfrac{1}{4}}$

You are selecting one card from a standard, 52-card deck (shown below).

52 total

11) What is the probability of choosing a king?

$$\frac{4}{52} = \boxed{\frac{1}{13}}$$

12) What is the probability of drawing a red card (diamond or heart)?

$$\frac{26}{52} = \boxed{\frac{1}{2}}$$

13) What is the probability of drawing a heart?

$$\frac{13}{52} = \boxed{\frac{1}{4}}$$

14) What is the probability of choosing a jack or a queen?

$$\frac{8}{52} = \boxed{\frac{2}{13}}$$

15) What is the probability of choosing a queen, a king, or an ace?

$$\frac{12}{52} = \boxed{\frac{3}{13}}$$

16) What is the probability of drawing a black ace?

$$\frac{2}{52} = \boxed{\frac{1}{26}}$$

17) What is the probability of drawing the queen of hearts?

$$\boxed{\frac{1}{52}}$$

18) What is the probability of drawing a black diamond?

$$\boxed{0}$$

A restaurant offers four sizes of pizza – small, medium, large, and extra-large; two types of crust – thick and thin; and eight toppings.

19) How many possible combinations of pizza with one topping are there?

$$4 \cdot 2 \cdot 8 = \boxed{64} \text{ total combinations}$$

20) If your friend orders a random pizza, what is the probability that it is a small, thin-crust, one-topping pizza?

$$1 \cdot 1 \cdot 8 = 8 \qquad 8/64 = \boxed{1/8}$$

21) If your friend orders a random pizza, what is the probability that it is an extra-large, one-topping pizza?

$$1 \cdot 2 \cdot 8 = 16 \qquad 16/64 = \boxed{1/4}$$