Name _____ Date Answer Key

WHAT'S THE PROBABILITY?

Probability is how likely something is to happen. Probability can be measured using numbers from 0 to 1. A probability that's close to 1 is more likely to happen. A probability that's close to 0 is less likely to happen. Use the following fraction to help you calculate the probability of a simple event:

$$\textbf{Probability} = \frac{\text{\# of favorable outcomes}}{\text{\# of possible outcomes}}$$

Imagine you have a bag with 16 sour candies, 2 of which are lemon. Calculate the probability that a randomly selected candy will be lemon. Make sure to simplify your fraction!

$$P(\text{lemon}) = \frac{2}{16} = \frac{1}{8}$$

So, the probability of randomly choosing a lemon candy is $\frac{1}{8}$. Since $\frac{1}{8}$ is close to 0, it is unlikely that a randomly selected sour candy will be lemon.

Find each probability. Write your answer as a fraction in simplest form.

The drama club at Lee Middle School is deciding on their spring production. There are 25 students who want to do a musical and 5 students who want to do a play. What is the probability that a randomly selected student would want to do a musical?

$P(\text{musical}) = \frac{5}{6}$

Maya made a playlist with 20 songs. The playlist includes 3 rap songs, 12 pop songs, and 5 R & B songs. If she plays the playlist on shuffle, what is the probability an R & B song will play first?

$P(\text{R \& B}) = \frac{1}{4}$

In one of the rental parking lots at Rent-and-Save Auto, there are 5 trucks, 9 cars, and 1 van. What is the probability that a randomly selected vehicle from this lot would be a car?

$P(\text{car}) = \frac{3}{5}$

Trevor has 40 contacts in his phone. Six are coworkers, 8 are family members, and 26 are friends. If Trevor accidentally calls a random contact, what is the probability he will call a friend?

$P(\text{friend}) = \frac{13}{20}$

Out of all the trains currently at Middlebury Station, 5 are headed east, 4 are headed west, and 9 are headed north. What is the probability that a randomly selected train will be heading north?

$P(\text{north}) = \frac{1}{2}$

There are 52 cards in a deck, 2 of which are red aces and 2 of which are black aces. If Lucas chooses a card from the deck without looking, what is the probability that the card will be an ace?

$P(\text{ace}) = \frac{1}{13}$

Challenge yourself! Choose a probability from your answers above that would be considered likely or unlikely. Write that probability below, and explain how you decided.

Answers may vary. Sample answer: The probability that Lucas chooses an ace would be considered unlikely because $\frac{1}{13}$ is closer to 0 than it is to 1.