Aim: Probability Review Sheet Date_____

Match the vocabulary word to the definition that best describes it.

When the outcome of one event affects the outcome of a second event. — dependent events

Displays the total number of possible outcomes for an event. — tree diagram

Uses multiplication in order to determine the number of possible outcomes of an activity — counting principle

The set of all possible outcomes for an activity — sample space

When the outcome of one event does not affect the outcome of a second event — independent events

The number of ways a certain event can happen divided by the total number of possible outcomes. — probability

When a number cube is rolled, 3 is a possible one of these. — outcome

1. A spinner has 3 equal sections that are red, white, and blue. What is the probability of not landing on blue? $\frac{2}{3}$

2. For breakfast, Mary can choose from oatmeal, cereal, French toast, or eggs. She thinks that if she selects a breakfast at random, it is likely that it will be oatmeal. Is she correct? Explain. $\frac{1}{4}$ or 25% This is unlikely

3. Find the experimental probability of each letter as a fraction in simplest form, a decimal, and a percent.

Letter	A	B	C	D
Frequency	14	7	11	8

Total = 40

A $\frac{14}{40}$ or $\frac{1}{20}$ 0.35 35%

B $\frac{7}{40}$ 0.175 17.5%

C $\frac{11}{40}$ 0.275 27.5%

D $\frac{8}{40}$ or $\frac{1}{5}$ 0.2 20%

Drink sales for a school carnival

	Soda	Water	Juice
Small	77	98	60
Large	68	45	52

Total 400

4. a.) What is the experimental probability that the next drink sold is a small juice? $\frac{60}{400}$

b.) What is the experimental probability that the next drink sold is a soda? $\frac{145}{400}$

c.) What is the experimental probability that the next drink sold is a large drink? $\frac{165}{400}$

5. A.) In tennis Nancy serves an ace 4 out of 10 times she serves. What is the experimental probability that Nancy will serve an ace in the next match? $\frac{4}{10}$

   B.) About how many aces will Nancy expect to have for the next 40 serves?

$$\frac{4}{10} \cdot 40 = 16$$

6. A baseball player reaches first base 30% of the times he's at bat. Out of 50 times at bat, about how many times will he reach first base?

$$(0.30)(50) = 15$$

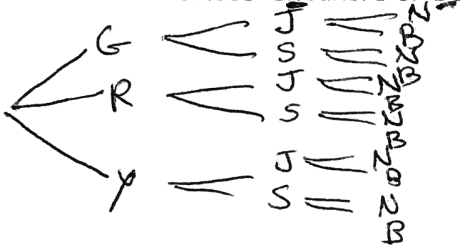
7. On a toy assembly line, 3% of the toys are found to be defective. The quality control officer predicts that 872 toys will be found defective out of 24,850 toys made. Do you agree with this prediction? Explain.

$(.03)(24850) = 745.50$

No I do not agree because 3% of 24850 is 745.50

8. a.) Draw a tree diagram to show the outfits that can be made.

Shirt: green, red or yellow
Pants: jeans or sweatpants
Shoes: sneakers or boots



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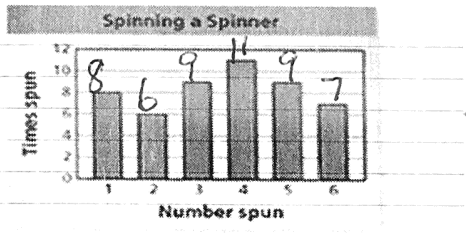
Based on the tree diagram:

b.) What is the probability that an outfit picked at random includes boots? $\frac{6}{12}$

c.) What is the probability that the outfit includes jeans? $\frac{6}{12}$

9. **Use the bar graph to find the experimental probability of the event.**

Spinning a number less than 3 — 14/50
Not spinning a 1 — 42/50
Spinning a 1 or a 3 — 17/50
Spinning a 7 — 0/50



Total = 50

10. A bag contains skittles; 3 red, 2 yellow and 1 orange. You reach into the bag and pick one, replace it, then pick another. What is probability that you pick a red then another red?

$$\frac{3}{6} \cdot \frac{3}{6} = \frac{9}{36}$$

11. A bag contains skittles; 3 red, 2 yellow and 1 orange. You reach into the bag and pick one, do not replace it, then pick another. What is probability that you pick a red then another red?

$$\frac{3}{6} \cdot \frac{2}{5} = \frac{6}{30}$$