8) My family loves the cupcake assortment. There are 12 carrot cupcakes, 8 chocolate cupcakes, 8 pumpkin spice cupcakes and 6 vanilla cupcakes. I randomly pass out the cupcakes. (These questions continue ...so what happens in part a should be considered when doing part b and so on)

a) What is the chance that my son will get a pumpkin spice cupcake? Give your answer as a fraction, decimal and percent.

$\frac{8}{34} = .24 = \boxed{24\%}$

b) He eats his cupcake....now what is the chance that my daughter gets a pumpkin spice cupcake? Give your answer as a fraction, decimal and percent.

$\frac{7}{33} = .21 = \boxed{21\%}$

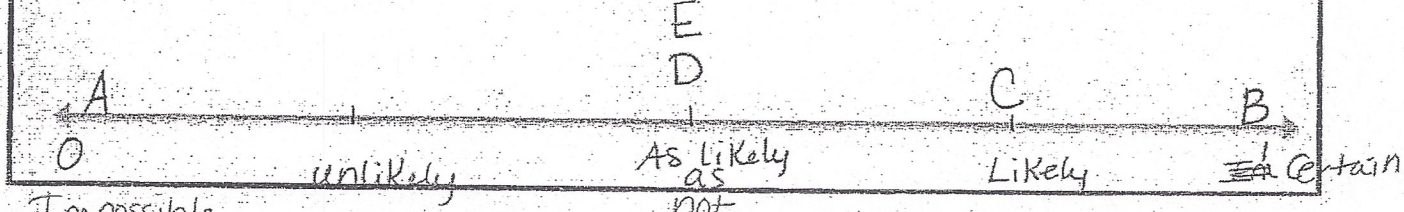
c) She eats hers and loves it. What is the chance that my sister will get a chocolate cupcake? Give your answer as a fraction, decimal and percent.

$\frac{8}{32} = \frac{1}{4} = \boxed{25\%}$

d) Peter is trying to decide what type of cupcake he wants. Which type does he have the highest probability of getting after the others above? Carrot → $\frac{12}{31} = 39\%$

8) Label the probability line below and place the following events along the line.

a) It will be 100 degrees on Thanksgiving.
b) There will be a football game on TV on Thanksgiving.
c) There will be turkey on Thanksgiving.
d) It will rain on Thanksgiving.
e) The first baby born on Thanksgiving will be a girl.



Impossible

0 .25 .5 .75 1

0 25% 50% 75% 100%

9) Write your own Thanksgiving problem, explaining the difference between dependent and independent events. Give two examples of each.

Dependent - The events affect each other.

Independent - The events do not affect each other.

10) My recipe for stuffing calls for $3\frac{1}{2}$ cups of bread crumbs, but I want to make $1\frac{1}{2}$ times the recipe. How many cups of bread crumbs do I need?

$\frac{7}{2} \cdot \frac{3}{2} = \frac{21}{4} = 5\frac{1}{4}$ cups

11) I have $14\frac{2}{3}$ cupcakes left and need to divide them up between the 20 guests. What part does each guest get?

$\frac{44}{3} \div \frac{20}{1} = \frac{11}{\cancel{44}}{3} \cdot \frac{1}{\cancel{20}_{5}} = \frac{11}{15}$ ea

12) There are 6 guests who would like $\frac{3}{5}$ cup of tea each. How many cups of tea should I make?

$\frac{3}{5} \cdot \frac{6}{1} = \frac{18}{5} = 3\frac{3}{5}$ cups

13) The fruit punch was delicious. There were $46\frac{1}{4}$ cups of punch in the bowl. My guests drank $37\frac{5}{8}$ cups. How much punch is left?

$46\frac{1}{4} - 37\frac{5}{8} = 46\frac{2}{8} - 37\frac{5}{8}$

$45\frac{10}{8} - 37\frac{5}{8} = 8\frac{5}{8}$ cups

Simulation Models

Name: _____ANSWER KEY_____
Date: _____

Read the following situations and determine which of the devices listed can be used to conduct a simulation.

14

1. A high school basketball player makes 50% of his shots from the three–point line. If he takes 13 shots during a game predict the number of baskets he will make.

Random Device	**Can it be used? √ or X**	**How?**
Coin	√	EX. Heads = making the shot Tails = missing the shot Flip the coin 13 times
Spinner	√	EX: Designate half the spinner to represent making the shot and half the spinner missing the shot. Spin 13 times
Playing Cards	√	EX: Designate one color to represent making the shot and one color to represent missing the shot OR choose two suits to represent making the shot and two suits to represent missing the shot. Choose 13 cards.
Number Cube	√	EX: Designate three numbers to represent making the shot and three numbers to represent missing the shot. Roll the number cube 13 times.
Random Number Table	√	EX: Using the numbers 0–9, 0–4 would represent making the shot and 5–9 would represent missing the shot. Look at 13 digits at a time. There are a variety of ways students can split the numbers 0–9 into two equal groups.
Random Number Generator	√	SAME AS ABOVE Another example: Evens would represent making the shot and Odds would represent missing the shot. Look at 13 digits at a time.