

Name: _____ Date: _____

Unit 2 Probability Quiz review

- 1) Determine the probability of randomly landing on black

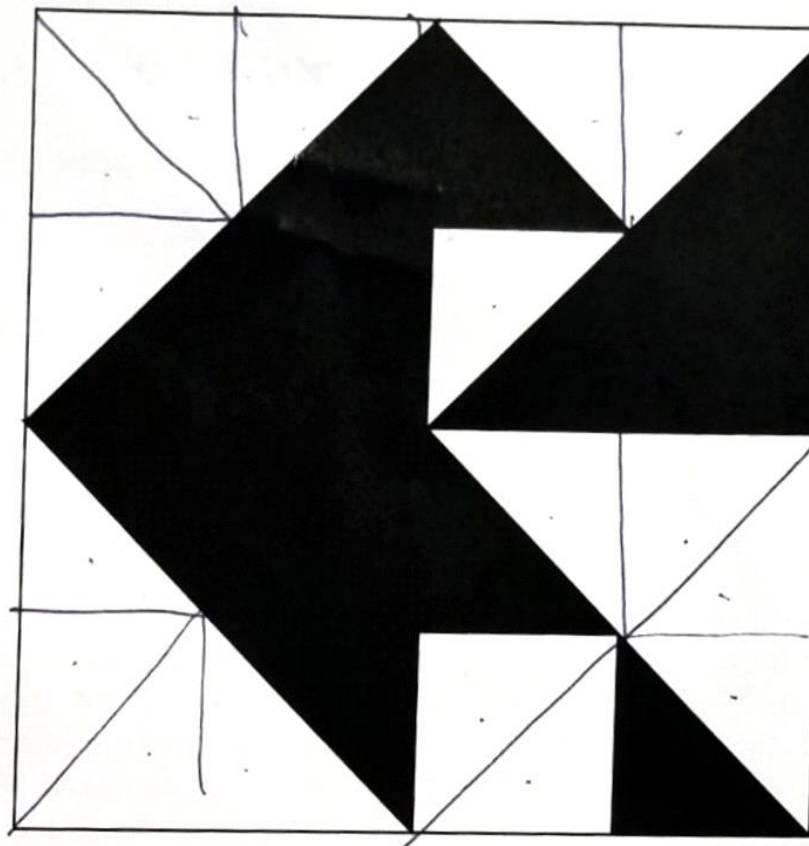
$$\frac{15}{32}$$

- 2) Determine the probability of randomly landing on white

$$\frac{17}{32}$$

- 3) You get four dollars for landing on black and two dollars for landing on white. How many points would you expect to win in this game?

$$4\left(\frac{15}{32}\right) + 2\left(\frac{17}{32}\right) = 2.94$$



- 4) Determine a reasonable price to set in order to make a profit

$$\text{\$ } 3$$

- 5) How much profit would you make per person? How much money would you make if 50 people played?

$$3 - 2.94 = .06$$

$$.06 \times 50 = 3$$

$$\text{\$ } 3$$

hmm maybe charge more

Ruby and Max are running a basketball game for their carnival game. The player gets 6 shots in order to make a basket.

- 6) Find the probability of each possible outcome. (for example the probability of no baskets, one basket, two baskets etc.)

0	1	2	3	4	5	6
$\frac{1}{64}$	$\frac{6}{64}$	$\frac{15}{64}$	$\frac{20}{64}$	$\frac{15}{64}$	$\frac{6}{64}$	$\frac{1}{64}$

- 7) If you make all 6 baskets you get a large stuffed animal, if you make 4 or 5 you get a bag of chips, if you make 3 you get a fun sized piece of candy. What would Max and Ruby expect to spend on prizes per person?

$$\text{\$ } 4\left(\frac{1}{64}\right) + \text{\$ } 1\left(\frac{21}{64}\right) + .30\left(\frac{20}{64}\right)$$

$$.06 + .33 + .09 = \text{\$ } .48$$

8) What is a reasonable price for Max and Ruby to charge to make a profit?

\$1

profit of \$24 per play

9) If they expect 128 people to play the game, how many chips should they buy?

$$128 \left(\frac{21}{64} \right) = 42$$

10) If they expect 128 people to play the game, how many fun sized candies should they buy?

$$128 \left(\frac{20}{64} \right) = 40$$

A local comic store has made a blind bag grab bag to try and sell more of their products. In the bag you can get a comic, a toy, and a card pack for a card game. Each bag only costs \$10 but you don't know what you will get ahead of time. You can get either a Batman, Deadpool, Spider-man, or Superman comic. You can get either a BB-8 figure, a Hedwig stuffed animal, or an iron man key chain. For the card game you could either get a pack of Magic cards, Pokemon cards, or Yu-Gi-Oh cards. (On a separate sheet of paper) Draw a tree diagram that has all the possibilities of what could be in the grab bag.

11) How many possibilities of grab bags are there?

36

12) How many grab bags will have a Hedwig stuffed animal?

12

13) How many grab bags do not have magic cards?

24

14) What is the probability that your grab bag will have a batman comic and Pokemon cards?

$$\frac{3}{36} = \frac{1}{12} = 8\%$$

15) What is the probability that you will NOT get the Deadpool comic?

$$\frac{27}{36} = \frac{3}{4} = 75\%$$

16) What is the probability that you will get a BB-8 figure GIVEN that the bag has a superman comic in it?

$$\frac{3}{9} = \frac{1}{3} = 33\%$$

