Name: _____ Period: _____

Probability Review

Unit 9

You have a jar of gumballs: 4 red, 9 green, 8 blue, 6 yellow, and 3 white. Find the following probabilities and write as a simplified fraction and as a percent.

1. P(white)
2. P(green)
3. P(blue or yellow)
4. P(complement of red)

You roll a 6 sided die one time. Write the following probabilities as a simplified fraction and as a percent.

5. P(7)
6. P(1 or 2)
7. P(odd number)
8. P(complement of 6)

In your math class there are whiteboard markers at the board: 2 green, 2 blue, 2 red, 1 purple, and 1 black. Two students randomly choose whiteboard markers. If the first student replaces the marker they used, what is the probability that the students choose each of the following situations? Write the probability as a simplified fraction and as a percent.

9. P(green, blue)
10. P(red, purple)
11. P(black, black)
12. P(purple, green)

In your closet you have 10 white shirts, 4 black shirts, and 2 blue shirts. You randomly choose a shirt each day. Sometimes you don't replace it because it is dirty. You choose another shirt the next day. Find the probability of the following situations write it as a simplified fraction and as a percent.

13. P(white, white) **with replacement**
14. P(white, black) **without replacement**
15. P(black, blue) **without replacement**
16. P(blue, blue) **without replacement**
17. P(white, white, white) **with replacement**
18. P(white, black, blue) **with replacement**
19. P(black, white, white) **without replacement**
20. P(blue, blue, blue) **with replacement**

21. Cody did a survey and found that 9 out of 10 people own a pair of black shoes. Is this an example of theoretical or experimental probability? Why?

22. A shirt from Down East comes in 5 different styles, 6 different colors, 2 different sleeve lengths, and 3 different sizes. How many different types of shirt are there?

23. A school gives every student a 6 digit student ID number. How many 6 digit ID numbers are possible?

24. A shop sells 9 different flavors of ice cream, you can choose from a cup, a sugar cone, or a cake cone for your ice cream and can have your ice cream dipped, with sprinkles, or plain. How many different combinations are there?

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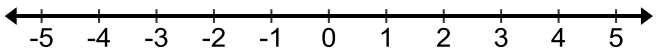
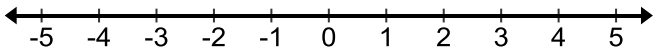
24. Solve the following inequality: $-x \leq 8$

25. Solve the following inequality: $9 < x - 3$

26. Graph the following inequality. $-4 \leq x$



27. Graph the following inequality. $3 > x$



28. Put the following in order from <u>least to greatest</u>.

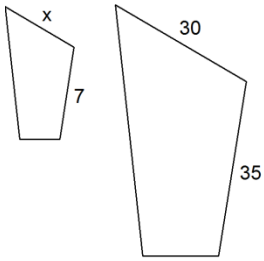
$\frac{7}{8}, 0.78, \frac{3}{4}, 0.87$

29. Put the following in order from <u>greatest to least</u>.

$0.72, \frac{3}{7}, \frac{4}{9}, 0.21$

30. Is this proportion set up correctly for the figures shown? If not, set up a correct proportion.

$\frac{x}{35} = \frac{30}{7}$



31. Evaluate the expression:

$3x - 2zy$ *for* $x = -6,\ y = 3,\ z = -1$