

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Quarter Test 3 Review Sheet

#### Percents Review

**Solve for N. Show all work. Where necessary, round to the nearest percent.**

1.  $140 = N\% \times 230$

2.  $N = 20\% \times 160$

3.  $20 = 75\% \times N$

**Solve each problem below by translating into an equation. Show all work.**

4. 45 is what percent of 80?

5. 12% of what number is 8?

6. What is 130% of 60?

7. What percent is 300 out of 600?

**Answer each word problem. Show all work. Where necessary, round to the nearest tenth of a percent.**

8. In a school that totals 670 students, only 30% bring their lunch from home. How many students do not bring their lunch from home?

9. Sarah missed 2 questions on a 40 question test. What was her grade to the nearest percent?

10. There are 48 carpenters in a crew. On a certain day, 30 were present. What percent showed up for work?

11. The Roslyn Bulldogs won 16 games last year. This year the Bulldogs won 24 games. What is the percent increase in the number of games the Bulldogs won from last year to this year?

12. In 2001, there were 500 students in Roslyn Middle School. By 2016, there were 750 students in Roslyn Middle School. What is the percent increase in the population?

13. Mary's service charge at a beauty salon was \$78.00 before tax. The sales tax rate was 8%. How much did she pay at the salon?
14. In 2012, gas cost \$2.00 per gallon. Now, it has increased by 25%. How much does gas cost now per gallon?
15. Leo bought a used car for  $x$  dollars. One year later, the value of the car was  $0.74x$ . What percent did the car's value decrease?
16. The population of a city is expected to increase by 12% next year. If  $p$  represents the current population, which expression represents the expected population next year?  
A.)  $.12p$                       B.)  $1.12p$                       C.)  $p + .12$                       D.)  $1p + 0.12$
17. Sally has a discount card that reduces the price of her grocery bill in a certain grocery store by 5%. If  $c$  represents the cost of Sally's groceries, which expression represents Sally's grocery bill?  
A.)  $0.05c$                       B.)  $0.095c$                       C.)  $c - 0.05c$                       D.)  $c + 0.95$
18. Naomi invested \$2400. She earned 3.7% interest annually on the initial investment. What was the total account balance after 5 years?
19. Andy works on commission as a sales rep. His commission rate is 5% and his sales for this month were \$75,200. What is the commission that Andy earns?
20. Sally answered 9 questions correctly out of 12. Mary scored the same percent as Sally, but attempted 28 questions. How many questions did Mary score correctly?
21. John bought sneakers for \$100, a t-shirt for \$60, and a pair of jogger sweatpants for \$35. If he also paid a 8.85% sales tax, to the nearest cent, how much money did he spend?

Probability and Statistics Review

In a bag there are 5 red marbles, 6 blue marbles and 9 green marbles

22. Find  $P(\text{red})$

23. Find  $P(\text{green})$

24. Find  $P(\text{red then green})$  with replacement

25. Find  $P(\text{green then green})$  with replacement

26. Find  $P(\text{red then green})$  without replacement

27. Find  $P(\text{green then green})$  without replacement

28. If a coin is tossed 100 times, how many times can we expect it to land on tails?

29. If a single die is rolled 120 times how many times can we expect a number less than 4? Is this *exact* or *about*?

Given the following data: 90, 80, 85, 75, 275 find:

30. Mean

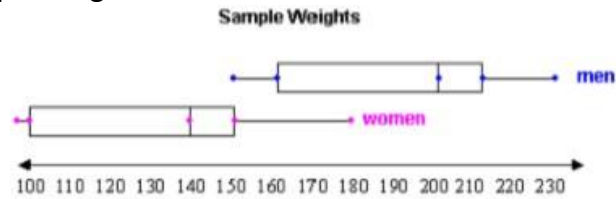
31. Median

32. Mode

33. Which measure of central tendency is best for this situation?

34. Find the mean absolute deviation for 5, 5, 6, 8, and 12.

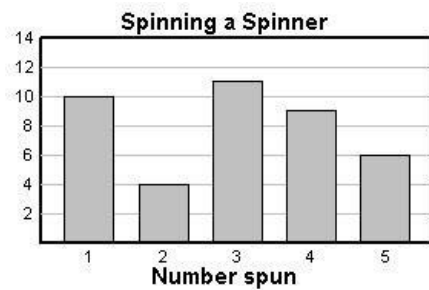
35. In the box-and-whisker plot below: compare the measures of center and the measures of variation between men and women's sample weights.



36. You want to take a survey for people's favorite type of food. What survey type would provide the most unbiased information?

- A. Survey 100 random people who walk through McDonald's
- B. Survey 4 random people at a grocery store.
- C. Survey every 5<sup>th</sup> person who walks through an entrance to a grocery store
- D. Survey your 15 best friends

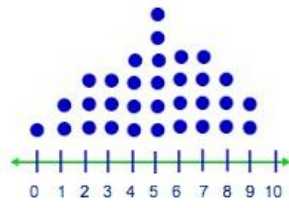
37. What is the experimental probability you spin an odd number on the next spin?



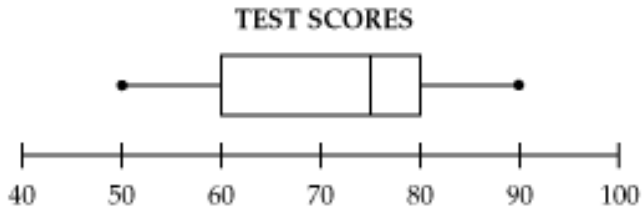
38. A storeowner made a list of the number of hats he sold last month. The store sold 167 baseball hats, 285 football hats, and 77 mesh hats. Based on this data, What is the probability, to the nearest hundredth, that the next customer buys a baseball hat?

39. If you have 3 choices of a jacket, 4 choices of a shirt, 2 choices of pants and 5 choices of shoes, how many outfits can you create using one of each?

40. Describe each dot plot as skewed left, skewed right or symmetrical.



41. Using the box and whisker plot below, answer the following:



- a.) What is the median?
- b.) What is the lower quartile?
- c.) What is the upper quartile?
- d.) What is the interquartile range?
- e.) What is the 75<sup>th</sup> percentile?
- f.) What percent of the data is in between 60 and 80?

42. You spin the spinner twice. What is the probability you spin a prime number and then spin a 3 or 4?



43. Make a tree diagram for spinning a spinner with sectors A – D and flipping a coin.

44. Is it possible to find the mean of numbers in a box and whisker plot? Why or why not?