

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

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

**Quarter Test 3 – Mixed Review**

1. There are 220 out of 800 students who play an instrument. Represent this ratio as a percent.
2. Carl completed 16 of the 20 questions on a timed math test. Roland completed the same percent of questions on a 30 question timed math test. How many questions did Roland complete?
3. A city's population increased by 12.5% over the past 5 years. If the population 5 years ago was 65,000 people, how many people live in the city now? *Solve this problem in two different ways.*
4. Suzanne received a 10% discount on a sweater originally priced at \$98. How much did Suzanne pay for the sweater before tax? *Solve this problem in two different ways.*
5. Lenny bought a used car for  $x$  dollars. One year later, the value of the car was  $0.70x$ . What percent represents the car's decrease in value?
6. The population of a city is expected to increase by 20% next year. If  $p$  represents the current population, which expression represents the expected population next year?  
A.  $1.2p$       B.  $0.2p$       C.  $1 + 0.2p$       D.  $p + 0.2$
7. She earned 2.5% simple interest annually on an initial investment of \$2,000. Find the interest earned after 3 years. What was Norma's account balance after 3 years?
8. For a – d, state whether the event is *unlikely*, *likely* or has an *even chance* of occurring.
  - a. A standard six-sided number cube is rolled and it lands on an even number.
  - b. A fair coin is tossed and it lands on tails.
  - c. A spinner with colors Red, Green, Yellow, and Blue, is spun once and the arrow lands on green.
  - d. A letter is chosen from the letters A – F and it's a consonant.
9. A group of students who attend high school in NYC were surveyed about how they travel to and from school. The results of the survey are displayed in the table. What is the probability that a randomly selected student from the group surveyed walks or cycles to school? Represent your answer to the nearest hundredth.

Method of Travelling	Number of children
Walking	8
Car	9
Bus	4
Cycle	5
Train	1
Taxi	3

10. A spinner has 3 sectors labeled with letters A – C. Each sector is the same size. If the arrow is spun 175 times, *about* how many times can we expect to land on the letter C?

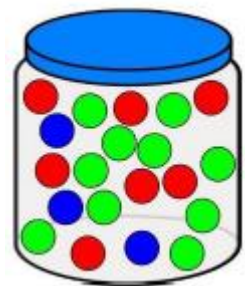
11. If a single die is rolled 120 times how many times can we expect to land on a number less than 5?

12. Jim has 3 pairs of pants, 4 shirts and 2 belts. How many different outfits can he wear if he chooses one pair of pants, one shirt and one belt?

13. A coin is tossed and a spinner with letters A, B, C, D is spun. Find the following probabilities. What is the probability of landing on heads and spinning the letter B?

**In a jar there are 7 red marbles, 3 blue marbles and 10 green marbles.**

14. You randomly choose one of the marbles from the jar. **Without replacing** the first marble, you choose a second marble. What is the probability of choosing a red marble first and a blue marble second?



15. You randomly choose one of the marbles from the jar. After choosing the first marble, you **replace** it and choose a second marble. What is the probability of choosing a red marble first and a blue marble second?

16. The line plot shows the number of siblings that each student in Mr. Scott's class has.

- Describe the shape of the graph (skewed left, right, or symmetrical).
- Which measure of central tendency (mean, median, or mode) would be best?
- True/False: The range would be the best measure of spread to use for this data.

