

Accuracy and Precision Homework

Name _____

Key

Class Period _____

- Accuracy: the answer is EXACT!!!
- Approximation: the answer is rounded at the END!!!
- Estimation: the answer is rounded at the beginning!!!

Directions: Determine whether the situation requires an exact answer, an approximation, or an estimate.

1. A recipe that calls for 4 cups of sugar is being doubled.

exact answer

2. A party planner needs to determine how many entrees to order. The client suggests there will be between 100 to 150 guests in attendance.

estimation

3. A square with a side of 9 yd has a diagonal of 12.72 yd.

approximation

4. The temperature on a thermometer reads 32°F.

exact or approximation

5. An elevator can hold up to one ton. The average weight of a passenger is 180 lb. Based on this average and the fact that there are 10 people on the elevator, there is a total of 1800 lb.

estimation

Directions: Solve each problem.

6. A nurse practitioner has written a prescription for a medicine to be given in a dosage of 0.05mL per pound of the weight of the patient. If a patient is 150lb, what should the dosage for this patient be? Describe the accuracy of your answer.

7.5 mL exact

7. Estimate a 20% tip for a taxi cab bill of \$47.23.

\$9.40 estimation

Directions: Choose the best answer.

8. Which of the following represents an approximate quantity?

- a. The slope of a hill is about 20°.
- b. A female dog had 10 pups.
- c. Weather.com predicts a low temperature of 20°F today.
- d. The maximum capacity of an elevator is 1,500 pounds.

9. For which of the following situations would you need an exact answer?

- a. The number of bananas on a peanut butter banana sandwich.
- b. The number of people in a city.
- c. The number of fans in the Lassiter football stands.
- d. The number of passengers on a school bus.

10. If you were to measure the volume of an ice cube in your freezer, what would be a reasonable unit to use?

- a) Cubic feet b) Cubic miles c) Square feet **d) Cubic inches**

11. The length of the side of a particular square may be expressed as 1200 centimeters, 13.9 yards, 12,000 millimeters or 0.091 miles. Which unit is the BEST of these to express the square's perimeter in?

- a) Miles **b) Yards** c) Centimeters d) Millimeters

12. What is a good unit to measure the area of a room in a house?

- a) Square feet** b) Square miles c) Square inches d) Square millimeters

13. Sandra collected data about the amount of rainfall a city received each week. Which value is MOST LIKELY part of Sandra's data?

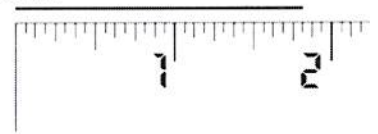
- a) 3.5 feet b) 3.5 yards **c) 3.5 inches** d) 3.5 meters

14. Which unit is the most appropriate for measuring the amount of water you drink in a day?

- a) Kiloliters **b) Liters** c) Megaliters d) Milliliters

15. What is the most precise measurement this ruler can give for the line segment?

- a) 1 $\frac{13}{16}$ inches**
b) 1 $\frac{7}{8}$ inches
c) 1 $\frac{3}{4}$ inches
d) 2 inches



16. The most accurate reading this thermometer can give (in °F) is to the nearest

- a) 1 degree
b) 5 degrees
c) 10 degrees
d) 20 degrees



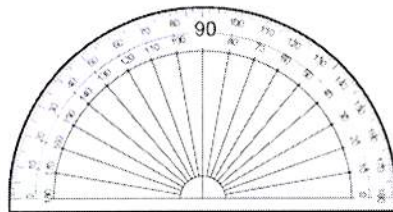
17. What is the most precise measure this beaker can give?

- a) To the nearest 1 mL
b) To the nearest 25 mL
c) To the nearest 50 mL
d) To the nearest 100 mL



18. How precise can this protractor be?

- a) To the nearest degree**
b) To the nearest ten degrees
c) To the nearest tenth degree
d) To the nearest hundredth degree



19. The most precise measure this ruler can give is to the nearest _____.

- a) Inch **b) Half inch** c) Eighth inch d) Quarter inch

