

Name: _____

- 1) Which one of the following tables represents a proportional relationship?

A)

x	y
3	6
4	8
5	10
6	12

B)

x	y
3	4
4	5
5	6
6	7

C)

x	y
3	9
4	16
5	25
6	36

D)

x	y
3	2
4	3
5	4
6	5

- 2) Write "\$9.16 for 4.3 pounds" as a unit rate. Round to the nearest cent.

A) \$2.14/pound

B) \$2.13/pound

C) 2.14

D) \$2.41/pound

- 3) Write "\$4.45 for 5 quarts of oil" as a unit rate.

A) 88¢/quart

B) 90¢/quart

C) 98¢/quart

D) 89¢/quart

- 4) Write "5 ounces for \$1,600" as a rate in simplest form.

A) $\frac{5}{\$1,600}$ B) $\frac{\$320}{1}$ C) $\frac{1}{\$320}$ D) $\frac{\$1,600}{5}$

- 5) If a baseball player gets 12 hits every 66 times at bat, then what is the unit rate of change?

A) 0.20 hits per time at bat

B) 0.24 hits per time at bat

C) 0.30 hits per time at bat

D) 0.18 hits per time at bat

- 6) If a well produces 56 gallons of water in 8 minutes, then what is its unit rate?

A) 8 gallons per minute

B) 7 gallons per minute

C) 6 gallons per minute

D) 9 gallons per minute

- 7) What is the value of d in the proportion
- $\frac{16}{d} = \frac{18}{27}$
- ?

A) 12

B) 24

C) 18

D) $\frac{32}{3}$

- 8) What is the value of y in the proportion
- $\frac{35}{7} = \frac{4}{y}$
- ?

A) $\frac{4}{5}$ B) $\frac{5}{4}$ C) $\frac{1}{20}$

D) 20

- 9) What is the value of s in the proportion
- $\frac{24}{2s-2} = \frac{6}{5}$
- ?

A) 41

B) 9

C) -11

D) 11

- 10) What is the value of x in the proportion
- $\frac{12x-7}{4} = \frac{5x+18}{3}$
- ?

A) $\frac{56}{51}$ B) $\frac{93}{16}$ C) $\frac{16}{93}$ D) $\frac{51}{2}$ **Questions 11 and 12 refer to the following:**

Solve the given proportion for the variable:

11) $\frac{z}{400} = \frac{1}{6}$

A) $\frac{3}{200}$ B) $\frac{200}{3}$

C) 40

D) 2,400

- 12) $\frac{3}{x} = \frac{5}{8}$
-
- 13) A hockey team played n games; they lost four of them and won the rest. The ratio of games won to games lost is
A) $\frac{4}{n-4}$ B) $\frac{n}{4}$ C) $\frac{4}{n}$ D) $\frac{n-4}{4}$
- 14) During a recent winter, the ratio of deer to foxes was 7 to 3 in a certain county. If there were 210 foxes in the county, what was the number of deer in the county?
A) 280 B) 490 C) 90 D) 147
- 15) In a molecule of water, there are two atoms of hydrogen and one atom of oxygen. How many atoms of hydrogen are in 28 molecules of water?
A) 56 B) 42 C) 14 D) 29
- 16) Sterling silver is made of an alloy of silver and copper in the ratio of 37:3. If the mass of a sterling silver ingot is 600 grams, how much silver does it contain?
A) 48.65 g B) 450 g C) 200 g D) 555 g
- 17) A high school football practice calls for 16 minutes of running and warming up, 36 minutes for basic skills, 24 minutes for new material, 28 minutes for team play, and 12 minutes for a special task. A longer practice still preserved these ratios. If 35 minutes was spent on team play, then what is the total amount of time spent on new material and basic skills?
A) 35 min B) 30 min C) 75 min D) 45 min
- 18) Islena spent $\frac{3}{8}$ of her monthly income for rent. If her rent was \$240, what was her monthly income?
A) \$640 B) \$720 C) \$900 D) \$1,920
- 19) There are 18 boys and 12 girls in a class. For every 3 boys, how many girls are in the class?
A) 1 B) 2 C) 6 D) 4
- 20) To estimate the buffalo population in an area of the central United States, 43 buffalo were captured, tagged, and then released. A month later 30 buffalo were caught and it was found that four were tagged. Which of the following is the best estimate for the number of buffalo in the area?
A) 275 B) 323 C) 421 D) 77
- 21) When rice is prepared, the amount of rice varies directly as the amount of water required. If 2 cups of rice requires 4.5 cups of water, then what is the total number of cups of water needed to prepare 5 cups of rice?
A) 11.25 B) 9 C) 10 D) 22.5
- 22) At the Phoenix Surfboard Company, \$306,000 in profits was made last year. This profit was shared by the four partners in the ratio 3:3:5:7.
How much more money did the partner with the largest share make than one of the partners with the smallest share? Show all work.

- 23) How much would 5 golf balls cost if they are sold for \$15 per dozen?
- 24) In a concrete mix, the ratio of sand to cement is 5:1. How many bags of sand would be used with 12 bags of cement?
- 25) An image of a building in a photograph is 6 centimeters wide and 11 centimeters tall. If the image is similar to the actual building and the actual building is 174 meters wide, how tall is the actual building, in meters? Show all work.
- 26) What value of x makes the proportion $\frac{x+1}{3} = \frac{7x-1}{5}$ true?