MATH
REVIEW

Key

Determine if each of the following is true or false:
(2 points each)

1) $\dfrac{1}{2} = \dfrac{3}{6}$ __*true*__

2) $\dfrac{2}{3} = \dfrac{6}{9}$ __*true*__

3) $\dfrac{3}{5} = \dfrac{6}{10}$ __*true*__

4) $\dfrac{3}{4} = \dfrac{12}{16}$ __*true*__

5) $\dfrac{12}{15} = \dfrac{4}{5}$ __*true*__

6) $\dfrac{6}{14} = \dfrac{3}{7}$ __*true*__

7) $\dfrac{2}{5} = \dfrac{6}{10}$ __*false*__

8) $\dfrac{8}{9} = \dfrac{4}{3}$ __*false*__

9) $\dfrac{6}{12} = \dfrac{5}{10}$ __*true*__

10) $\dfrac{3}{6} = \dfrac{5}{8}$ __*false*__

11) $\dfrac{4}{12} = \dfrac{8}{16}$ __*false*__

12) $\dfrac{14}{16} = \dfrac{21}{24}$ __*true*__

13) $\dfrac{12}{28} = \dfrac{6}{14}$ __*true*__

14) $\dfrac{5}{9} = \dfrac{35}{63}$ __*true*__

15) $\dfrac{25}{49} = \dfrac{5}{7}$ __*false*__

16) $\dfrac{14}{21} = \dfrac{12}{18}$ __*true*__

17) $\dfrac{15}{20} = \dfrac{16}{24}$ __*false*__

18) $\dfrac{36}{39} = \dfrac{24}{26}$ __*true*__

19) $\dfrac{36}{42} = \dfrac{24}{28}$ __*true*__

20) $\dfrac{24}{42} = \dfrac{47}{74}$ __*false*__

Answer the following questions yes or no:
(2 pts. each)

21) Do the ratios 3:8 and 12:24 form a proportion?   __*no*__

22) Do the ratios 5:9 and 40:72 form a proportion?   __*yes*__

23) Do the ratios 18:21 and 30:35 form a proportion?   __*yes*__

24) Do the ratios 42:72 and 63:99 form a proportion?   __*no*__

25) In a certain class there were 24 women and 30 men.
In a second class there were 20 women and 25 men.
Do the ratios of women to men in the two classes form a proportion?   __*yes*__

26) In a certain sample 21 people favored a sales tax increase
while 28 were opposed to it.
In another sample 36 were in favor and 48 were opposed.
Do the ratios in the two samples form a proportion?   __*yes*__

Use proportions to solve the following:
(2 pts. each)

27)   What number has the same ratio to 15 as 2 has to 3?

$$\frac{x}{15} = \frac{2}{3}$$ **10**

28)   What number has the same ratio to 49 as 2 has to 7?

$$\frac{x}{49} = \frac{2}{7}$$ **14**

29)   If Ted earns $35 in 5 hours, how much will he earn in 8 hours?

$$\frac{\$35}{5} = \frac{x}{8}$$ **$56.00**

30)   If Brenda earns $360 in 8 days, how much does she earn in 5 days?

$$\frac{\$360}{8} = \frac{x}{5}$$ **$225.00**

31)   If 3 cans of spray paint are needed to paint 2 lawn chairs,
how many cans are needed to paint 12 chairs?

$$\frac{3}{2} = \frac{x}{12}$$ **18 cans**

32)   A 6-foot man has a 5-foot shadow. A tree has a 20-foot shadow.
How tall is the tree?

$$\frac{6}{5} = \frac{x}{20}$$ **24 feet**

Key

33) The distance between two cities on a map is 5 inches.
If 1 inch represents 50 miles, what is the distance between the two cities?

$$\frac{x}{5} = \frac{50}{1}$$

250 miles

34) If 2 pounds of grass seed cover 300 square feet,
how many pounds are needed for 1875 square feet?

$$\frac{2}{300} = \frac{x}{1875}$$

12.5 pounds

35) If 3 pounds of hamburger cost $3.87, what is the cost of 5 pounds?

$$\frac{\$3.87}{3} = \frac{x}{5}$$

$6.45

36) The ratio of teeth on gear "A" to those on gear "B" is 5 to 7.
If gear "B" has 35 teeth, how many teeth does gear "A" have?

$$\frac{5}{7} = \frac{x}{35}$$

25 teeth

37) Two cities on a map are 5 inches apart.
The actual distance between them is 275 miles
What is the actual distance between two other cities that are 8 inches apart?

$$\frac{275}{5} = \frac{x}{8}$$

440 miles

38) The sales tax on an item costing $75.00 is $5.25.
What is the sales tax on an item costing $114.00?

$$\frac{\$5.25}{\$75.00} = \frac{x}{\$114.00}$$

$7.98

Key

39)   Find 20% of 80.   *16*

40)   What is 16% of 60?   *9.6*

41)   Find 28% of 150.   *42*

42)   66% of 230 is what number?   *151.8*

43)   Find 83% of 420.   *348.6*

44)   6 is 60% of what number?   *10*

45)   93 is 75% of what number?   *124*

46)   18 is 4% of what number?   *450*

47)   36 is 16% of what number?   *225*

48)   162 is 9% of what number?   *1800*

49)   3 is what percent of 4?   *75.00%*

50)   7 is what percent of 15?   *46.67%*