

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

- |  |  |  |  |
|--|--|--|--|
| 1) $\frac{1}{2} = \frac{3}{6}$<br>_____      | 2) $\frac{2}{3} = \frac{6}{9}$<br>_____      | 3) $\frac{3}{5} = \frac{6}{10}$<br>_____     | 4) $\frac{3}{4} = \frac{12}{16}$<br>_____    |
| 5) $\frac{12}{15} = \frac{4}{5}$<br>_____    | 6) $\frac{6}{14} = \frac{3}{7}$<br>_____     | 7) $\frac{2}{5} = \frac{6}{10}$<br>_____     | 8) $\frac{8}{9} = \frac{4}{3}$<br>_____      |
| 9) $\frac{6}{12} = \frac{5}{10}$<br>_____    | 10) $\frac{3}{6} = \frac{5}{8}$<br>_____     | 11) $\frac{4}{12} = \frac{8}{16}$<br>_____   | 12) $\frac{14}{16} = \frac{21}{24}$<br>_____ |
| 13) $\frac{12}{28} = \frac{6}{14}$<br>_____  | 14) $\frac{5}{9} = \frac{35}{63}$<br>_____   | 15) $\frac{25}{49} = \frac{5}{7}$<br>_____   | 16) $\frac{14}{21} = \frac{12}{18}$<br>_____ |
| 17) $\frac{15}{20} = \frac{16}{24}$<br>_____ | 18) $\frac{36}{39} = \frac{24}{26}$<br>_____ | 19) $\frac{36}{42} = \frac{24}{28}$<br>_____ | 20) $\frac{24}{42} = \frac{47}{74}$<br>_____ |

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

- 21) Do the ratios 3:8 and 12:24 form a proportion? \_\_\_\_\_
- 22) Do the ratios 5:9 and 40:72 form a proportion? \_\_\_\_\_
- 23) Do the ratios 18:21 and 30:35 form a proportion? \_\_\_\_\_
- 24) Do the ratios 42:72 and 63:99 form a proportion? \_\_\_\_\_
- 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? \_\_\_\_\_
- 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? \_\_\_\_\_

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

- 27) What number has the same ratio to 15 as 2 has to 3?
- 28) What number has the same ratio to 49 as 2 has to 7?
- 29) If Ted earns \$35 in 5 hours, how much will he earn in 8 hours?
- 30) If Brenda earns \$360 in 8 days, how much does she earn in 5 days?
- 31) If 3 cans of spray paint are needed to paint 2 lawn chairs, how many cans are needed to paint 12 chairs?
- 32) A 6-foot man has a 5-foot shadow. A tree has a 20-foot shadow. How tall is the tree?

- 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?
- 34) If 2 pounds of grass seed cover 300 square feet,  
how many pounds are needed for 1875 square feet?
- 35) If 3 pounds of hamburger cost \$3.87, what is the cost of 5 pounds?
- 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?
- 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?
- 38) The sales tax on an item costing \$75.00 is \$5.25.  
What is the sales tax on an item costing \$114.00?

- 39) Find 20% of 80.
- 40) What is 16% of 60?
- 41) Find 28% of 150.
- 42) 66% of 230 is what number?
- 43) Find 83% of 420.
- 44) 6 is 60% of what number?
- 45) 93 is 75% of what number?
- 46) 18 is 4% of what number?
- 47) 36 is 16% of what number?
- 48) 162 is 9% of what number?
- 49) 3 is what percent of 4?
- 50) 7 is what percent of 15?