

## **Chapter 5 & 6 Unit Test - Ratios & Rates, Proportions and Percents**

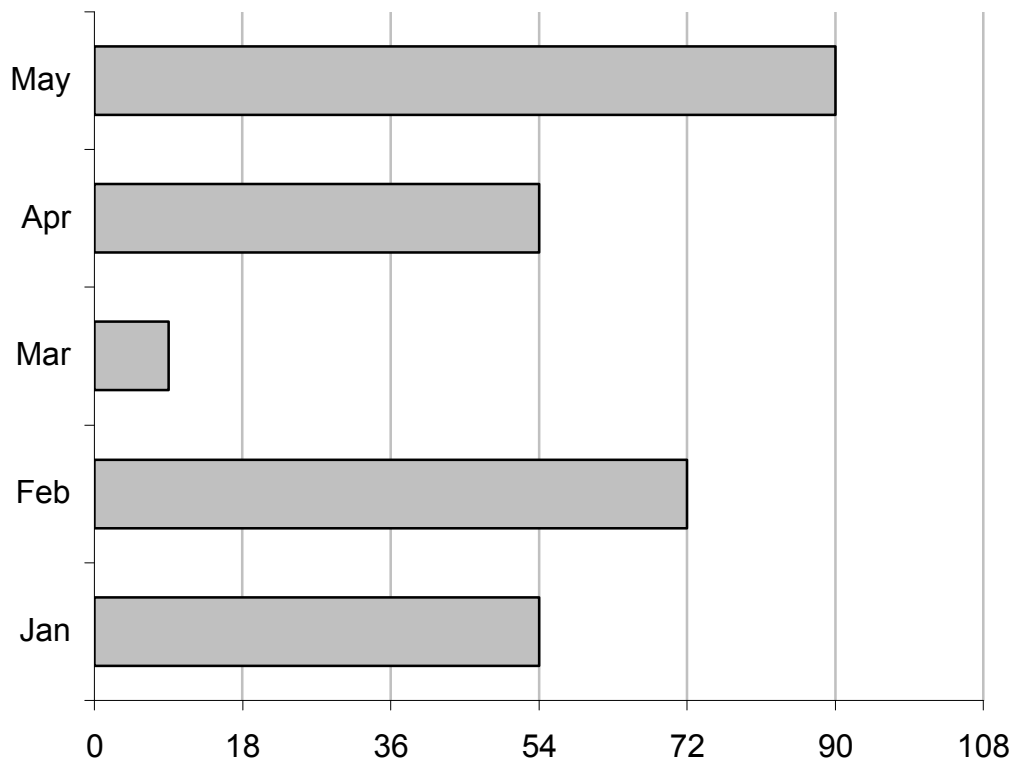
Name \_\_\_\_\_ Section \_\_\_\_\_

**Be sure to show all your work and circle your answer.**

- 1) Write the rate of 425 feet to 68 seconds in simplest form.
- 2) Write the rate of \$9 to 12 gallons in simplest form.
- 3) Write the ratio of 200 centimeters to 1.5 meters in simplest form.  
(hint: 1 meter = 100 centimeters).
- 4) Write the ratio of  $7\frac{3}{11}$  to  $\frac{24}{13}$ .
- 5) Solve for x:  $\frac{x}{35} = \frac{24}{25}$  (round to the nearest thousandth if necessary)
- 6) Solve for x:  $\frac{\frac{3}{11}}{5\frac{1}{3}} = \frac{x}{176}$  (exact answer only)
- 7) Solve for x:  $\frac{0.9}{1.1} = \frac{8.1}{x}$  (exact answer only)
- 8) Write 4.5% as a fraction and as a decimal.
- 9) Write 2.875% as a fraction and as a decimal.
- 10) Write  $\frac{5}{9}$  as a decimal and as a percent.
- 11) 115 is what percent of 92?
- 12) 34% of 192 is what?
- 13) 21 is  $\frac{3}{7}\%$  of what?
- 14) Find the sales tax (to the nearest cent) on \$400 if the sales tax rate is 7.75%.

- 15) Mara's bill was \$46.60 at Marie's Tomato Grill. If she plans to leave \$7.92 for a tip, what percentage tip (to the nearest whole percent) did she leave?
- 16) McLeroy needs 4 gallons of pesticide for every 375 square feet of his farm. How many square feet can he cover with  $15\frac{1}{5}$  gallons of pesticide?
- 17) Santo's commission on a sale of a new home was \$1401. If his commission rate was 1.5% of the price of the home, what was the price of the home?
- 18) A twenty-eight ounce jar of peanut butter costs \$1.50 while a forty ounce jar costs \$3.29. Find the cost per ounce of each jar (to the nearest thousandth) and determine which is a better buy.
- 19) If 12 pizzas cost \$84.96, how many pizzas can be bought with a fifty-dollar bill? How much change will there be left?
- 20) When a rod is heated, it will expand by 0.8%. If the rod is 550 cm long when it is cool, how long is it when it is heated?
- 21) An oil change station can change the oil on 96 cars in three hours. How many cars can the station change the oil in 75 minutes?
- 22) The capacitance of a capacitor is rated at 400  $\mu\text{F}$ . If the capacitance can be off by as much as 7.5%, what is the minimum capacitance of the capacitor?
- 23) To make a punch, Leticia mixes 4 gallons of 7-up soda with 2 gallons of ice cream. What is the ratio of the amount of ice cream to the amount of punch?

Number of patients treated for Carpal Tunnel for the first five months



- 24) Write the ratio of the number of patients treated in January to the total number of patients treated in April and May.
- 25) If the number of patients receiving treatment for carpal tunnel is expected to increase by 20% over the next five months, how many will be treated in the next five months?

**Answer Key:**

- 1)  $\frac{25 \text{ ft}}{4 \text{ sec}}$  2)  $\frac{\$3}{4 \text{ gal}}$  3)  $\frac{4}{3}$  4)  $\frac{130}{33}$  5)  $x = 33.6$  6)  $x = 9$   
 7)  $x = 9.9$  8)  $\frac{9}{200}$ ; 0.045 9)  $\frac{23}{800}$ ; 0.02875 10)  $0.\bar{5}$ ;  $55.\bar{5}\%$   
 11) 125% 12) 65.28 13) 4900 14) \$31 15)  $\approx 17\%$   
 16)  $1425 \text{ ft}^2$  17) \$93,400 18)  $\approx \frac{\$0.054}{\text{oz}}$ ;  $\approx \frac{\$0.082}{\text{oz}}$ ; 28 oz Jar  
 19) 7 pizzas; \$0.44 20) 554.4 cm 21) 40 cars 22)  $370 \mu\text{F}$   
 23)  $\frac{1}{3}$  24)  $\frac{3}{8}$  25)  $\approx 335$  patients