

Name Kelly Dole

Date _____ 5.1

Find the product. Reduce units and label your answer.

1. $12 \cancel{\text{hr}} \times \frac{\$5}{\cancel{\text{hr}}} = \60 2. $6 \cancel{\text{oz}} \times \frac{\$0.59}{\cancel{\text{oz}}} = \3.54 3. $9 \cancel{\text{hr}} \times \frac{70 \text{ mi}}{\cancel{\text{hr}}} = 630 \text{ mi}$

Write the ratio as a fraction in simplest form. Then give another equivalent ratio.

4. 35 to 63 $5 \text{ to } 9$, $10 : 18$ 5. 10.8 seconds : 36 feet $3 \text{ to } 10$ or $6 : 20$
 6. 198 women to 110 men $9 \text{ to } 5$ 7. 1000 songs : 20 megabytes $50 : 1$ or $100 : 2$
 8. 26.1 miles : 3.6 hours $18 \text{ to } 10$ 9. 12 completions to 28 attempts $3/7$ or $6/14$
 10. 12 to 15 $4 \text{ to } 5$ or $8 \text{ to } 10$ 11. 24 : 9 $8 : 3$ or $\frac{16}{6}$ 12. 14 tetras : 6 angelfish $7 : 3$ or $14 \text{ to } 6$

Find the unit rate that makes the most sense. Be sure to label your answer.

13. 360 miles in 6 hours $\frac{360 \text{ mi}}{6 \text{ hr}} = 60 \text{ m/hr}$ 14. 18 bowlers on 6 lanes $\frac{18 \text{ b}}{6 \text{ L}} = 3 \text{ b/lane}$ 15. \$28 for 7 people $\frac{\$28}{7 \text{ p}} = \$4/\text{person}$
 16. \$5.40 for 24 cans $\frac{\$5.40}{24 \text{ c}} = \$0.23/\text{can}$ 17. \$1.29 for 20 ounces $\frac{\$1.29}{20 \text{ oz}} = .065/\text{oz}$ 18. 50 meters in 27.5 seconds $\frac{50 \text{ m}}{27.5 \text{ s}} = 1.82 \text{ m/s}$
 19. 4 books read in 10 weeks $\frac{4 \text{ b}}{10 \text{ w}} = .4 \text{ b/w}$ or $\frac{10}{4} = 2.5 \text{ w/b}$ 20. 3 houses built in 12 months $\frac{3 \text{ h}}{12 \text{ mo}} = .25 \text{ h/mo}$ 21. 80 miles on 6 gallons of gas $\frac{80 \text{ m}}{6 \text{ g}} = 13.3 \text{ m/g}$

Use the ratio table to find the unit rate with respect to the specified units.

22. Laps per minute

Minutes	0	2	4	6
Laps	0	1	2	3

$\frac{1 \text{ L}}{2 \text{ m}} = \frac{1}{2} \text{ lap/min}$

23. Grams of protein per serving

Servings	0	1	2	3
Grams of Protein	0	15	30	45

$\frac{15 \text{ g}}{1 \text{ serv}} = 15 \text{ gr per serv}$

24. Are the two statements equivalent? Explain your reasoning.

The ratio of orange to blue is 3 to 4.

The ratio of blue to orange is 12 to 9.

$3 \quad 4$ Check order!

$12 \quad 9$
 $4 \quad 3$

yes - just simplify

25. Dishwasher detergent is sold in individual packs. Which is the best buy?

-pack container for \$5.49

60-pack container is \$10.97

90-pack container for \$18.95

$\frac{\$5.49}{20} = \$0.27/\text{pack}$

$\frac{\$10.97}{60} = \$0.18/\text{pack}$

$\frac{\$18.95}{90} = \$0.21/\text{pack}$

26. You want to buy a hot chocolate at Tim Horton's. They have 3 sizes to choose from. Pick the best buy.

16 oz for \$0.99

$$\frac{0.99}{16} = 6.2¢ \text{ per oz}$$

20 oz for \$1.49

$$\frac{1.49}{20} = 7.45¢$$

24 oz for \$1.99

$$\frac{1.99}{24} = 8.3¢$$

27. In beaker A, there are 16 bacteria in a beaker. Four hours later there are 228 bacteria in beaker A. Beaker B gains 347 bacteria in 5 hours. What is the rate of change per hour in the number of bacteria for both beakers? Which beaker has faster growing bacteria?

A grows

212 bact.

$$\frac{212}{4 \text{ hr}} = 53 \text{ b/hr}$$

B grows 347

$$\frac{347}{5 \text{ hr}} = 69.4 \text{ /hour}$$

28. At your summer job mowing lawns, you make \$57 in 6 hours. Your older brother makes \$83 in 8 and a half hours. Who made more money per hour?

$$\frac{\$57}{6 \text{ hrs}} = \$9.50/\text{hr}$$

$$\frac{\$83}{8} = \$10.38/\text{hr}$$

29. You swim 18 laps in 8 minutes. Your brother can swim 25 laps in 12 minutes. Your sister can swim 7 laps in 3 minutes. Who swims faster? Explain how you know.

more laps/min is faster

$$\frac{18 \text{ L}}{8 \text{ m}} = 2.25 \text{ L/min}$$

$$\frac{25 \text{ L}}{12 \text{ m}} = 2.08 \text{ L/min}$$

$$\frac{7 \text{ L}}{3 \text{ m}} = 2.33 \text{ L/min}$$

30. Complete the rate tables

3	6	1.5	10	7.5	4	40.5
8	16	4	26.6	20	10.6	108

2	14	6	20	9.6	56	22
5	35	15	50	24	140	55

31. Sally types 2000 words in three-quarters of an hour. What is her typing speed?

$$\frac{2000 \text{ w}}{.75 \text{ hr}} = 2666 \text{ w/hr}$$

33. You can buy 80 pounds of almonds for \$475. What is the price per pound?

$$\frac{\$475}{80 \text{ lb}} = \$5.90/\text{lb}$$

35. Michigan has 56,809 square miles and 9,205,000 people. What is its population density?

$$\frac{9,205,000 \text{ P}}{56,809 \text{ sq mi}} = 162 \text{ P/sq mi}$$

37. Sally read the last Harry Potter book in 17 hours. The book is 736 pages long.

$$\frac{736 \text{ P}}{17 \text{ hr}} = 43 \text{ P/hr}$$

32. You made \$153 working for 18 hours. What is your hourly pay rate?

$$\frac{\$153}{18 \text{ hr}} = \$8.50/\text{hr}$$

34. Stanley drove for 5 hours and traveled 238 miles. What was his average speed?

$$\frac{238 \text{ mi}}{5 \text{ hr}} = 47.6 \text{ m/hr}$$

36. If a dozen roses cost \$5.75, what is the cost per rose?

$$\frac{\$5.75}{12 \text{ r}} = \$0.47/\text{rose}$$

38. There are 234 students in 9 rooms. How many kids per room?

$$\frac{234 \text{ S}}{9 \text{ rm}} = 26 \text{ S/rm}$$