

Name: _____

Date: _____ Period: _____

Row: _____

REVIEW WORKSHEET SECTIONS 1.1-1.4

Assignment: _____

Write the numbers in increasing order.

9. $\sqrt{3}, -\sqrt{8}, -2.9, 2$ $-2.9, -\sqrt{8}, \sqrt{3}, 2$

Identify the property shown.

10. $a + (b + c) = a + (c + b)$ commutative

11. $a \cdot (b \cdot c) = (b \cdot c) \cdot a$ commutative

12. $a + (b + 3) = (a + b) + 3$ associative

13. $b(c + a) = b \cdot c + b \cdot a$ distributive

14. $c(a + b) = (a + b)c$ commutative

15. $a \cdot b + 0 = a \cdot b$ identity

Perform the given operation. Give the answer with the appropriate unit of measure.

18. $(15 \text{ ounce}) \left(\frac{\$3}{1 \text{ ounce}} \right)$ \$45

19. $\left(\frac{2 \text{ revolutions}}{\text{second}} \right) \left(\frac{60 \text{ seconds}}{\text{minute}} \right)$ 120 rev/min

20. *Cheetah's Speed* A cheetah can run $17\frac{1}{2}$ miles in $\frac{1}{4}$ hour. What is the speed of a cheetah in miles per hour? 70 mph22. *Snail's Speed* A snail can travel about 0.03 miles per hour. Convert this speed into feet per hour. Note that there are 5280 feet in 1 mile. Give your answer to 4 significant digits. 158.4 ft/hr

Evaluate the expression.

7. $(-3)^4$ 81

8. -2^6 -64

9. $-(-2)^5$ 32

11. $14 \div (7 - 5) + 1$ 8

13. $(5 - 2)^3 - 3 \cdot 4$ 15

15. $(5 - 2)^3 \div 9 - 6$ -3

Evaluate the expression for the given value of x .

16. $x(2 + x)$ when $x = -5$ 15

21. $6 - x^3 + x$ when $x = -2$ 12

Evaluate the expression for the given values of x and y .

22. $2x + y^3$ when $x = 3$ and $y = -2$ -2

23. $(2y)^3 - 5x$ when $x = 2$ and $y = 1$ -2

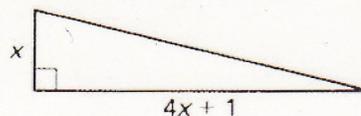
25. $\frac{(y - 2)^3}{2x + y}$ when $x = -1$ and $y = 4$ 4

Write an expression for the area of the figure. Then evaluate the expression for the given value(s) of the variable(s).

$$\frac{1}{2} \times (4x + 1)$$

75

27. $x = 6$

28. *Photography Studio* A photography studio advertises a session with a sitting fee of \$8.95 per person. The standard package of pictures costs \$29.95. Write an expression that gives the total cost of a session plus the purchase of one standard package. Evaluate the expression if a family of four purchases this package.

$$8.95x + 29.95$$

\$65.75

29. **Books** You want to buy either a paperback or hard covered book as a gift for 5 friends. Paperbacks cost \$6.95 each and hard covered books cost \$24.99 each. Write an expression for the total amount you must spend. Evaluate the expression if 3 of your friends get a paperback.

$$6.95x + 24.99(5-x)$$

$$\$70.83$$

30. **Weekly Earnings** For 1980 through 1990, the average weekly earnings (in dollars) for workers in the United States can be modeled by $E = 14.5t + 270$, where t is the number of years since 1980. Approximate the average weekly earnings in 1980 and 1990.

$$\$270, \$415$$

24. **Sales Tax** The state sales tax in Pennsylvania is 0.06 (or 6%). If your total bill at the music store included \$1.32 in tax, how much did the merchandise cost?

$$\$22$$

26. **Weekly Pay** You have a summer job that pays \$5.60 an hour. You get \$8.40 an hour for overtime (anything over 40 hours). How many hours of overtime must you work to earn \$287?

$$7.5 \text{ hours}$$

27. **Plumbing Bill** The bill from your plumber was \$134. The cost for labor was \$32 per hour. The cost for materials was \$46. How many hours did the plumber work?

$$2.75 \text{ hours}$$

28. **Travel Time** You want to visit your aunt who lives 255 miles away. The interstate is 10 miles from your house and once you get off the interstate, you must travel 14 miles more to get to your aunt's house. If you drive 55 miles per hour on the interstate, how many hours will you travel on the interstate?

$$4.2 \text{ hours}$$

29. **Babysitting Rate** You charge \$2 plus \$.50 per child for every hour you babysit. You earn \$3.50 an hour when you watch the Crandell children. How many children are in this family?

$$3 \text{ children}$$

Solve the equation. Check your solution.

11. $\frac{1}{2}x + 6 = -4$ -20

13. $-(x + 1) = 2(3x - 1)$ $\frac{1}{7}$

15. $2(7 - x) = 6(1 + 2x)$ $\frac{4}{7}$

17. $\frac{1}{2}(4x + 10) = 5 - 3x$ 0

19. $\frac{3}{2}(x - 5) = 7$ $\frac{29}{3}$

21. $5(2x - 2) = 4 - 2x$ $\frac{7}{6}$

Find the value of y for the given value of x by first solving for y and then substituting the value of x into the equation.

7. $6x - 9y = 9; x = -3$

11. $\frac{3}{4}x + \frac{4}{7}y = -6; x = 8$

9. $8x + 3y = 10; x = 4$ $y = -\frac{8}{3}x + \frac{10}{3}$

Solve the formula for the indicated variable.

13. **Height of an Equilateral Triangle**

Solve for s : $h = \frac{\sqrt{3}}{2}s$ $s = \frac{2}{\sqrt{3}}h$

15. **Volume of a Right Circular Cone**

Solve for h : $V = \frac{\pi r^2 h}{3}$

$$h = \frac{3V}{\pi r^2}$$

$$\frac{-22}{3}$$

17. **Area of a Trapezoid**

Solve for h : $A = \frac{h}{2}(b_1 + b_2)$ $h = \frac{2A}{b_1 + b_2}$

19. **Lateral Surface Area of a Right Circular Cylinder**

Solve for r : $S = 2\pi rh$

$$r = \frac{S}{2\pi h}$$

Solve the formula for the indicated variable. Then evaluate the rewritten formula for the given value(s). (Include units of measure in the answer.)

21. **Perimeter of a Square**: $P = 4s$

Solve for s .

Find s when $P = 44$ cm.

$$s = \frac{P}{4}; 11 \text{ cm}$$

7. $y = \frac{2}{3}x - 1; -3$

11. $y = -\frac{21}{16}x - \frac{21}{2}; -21$