# Academic Algebra I Chapter 2 Review (pgs 121-124)



# **CHAPTER REVIEW**

**KNOW THIS** VOCABULARY!!!!

## REVIEW KEY VOCABULARY

- whole numbers, integers, positive additive identity, p. 76 integer, negative integer, p. 64
- rational number, p. 64
- opposites, absolute value, p. 66

- conditional statement, p. cc

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- · additive inverse, p. 76
- multiplicative identity, p. 89 · equivalent expressions, p. 66
- distributive property, p. 96
- · term, coefficient, constant term, like terms, p. 97
- · multiplicative inverse, p. 103
- square root, radicand p. 110
- perfect square, p. 111
- irrational number, p. 111
- real numbers, p. 112
- -clooure, p. 117

#### PLUS:

- Properties: associative, communitive, distributive, identity, inverse, property of 0, property of -1.
- Chapter 1: solve, evaluate, simplify, equations, expressions, factors, terms.

#### **VOCABULARY EXERCISES**

Identify the terms, coefficients, constant terms, and like terms of the expression.

1. 
$$-3x - 5 - 7x - 9$$

2. 
$$-10c - 6 + c$$

Terms:	-3x, -5, -7x, -9	-10C, -6, C
Coefficients:	-3, -7	-10,1
Constants:	-5,-9	-6
Like Terms:	(-3x, -7x) and (-5,-9)	(-10C+C)

Tell whether the number is a real number, a rational number, an irrational number, an integer, or a whole number.

- 3. 0.3
- 4. 1/8
- 5. -15
- 6. \ 49

Real #: Rational: IRRational: Integer: Whole #:

yes	yes	yes	yes
yes	no	yes	yes
no	yes	no	no
no	no	yes	yes
no	no	no	yes

## REVIEW EXAMPLES AND EXERCISES

Use the review examples and exercises below to check your understanding of the concepts you have learned in each lesson of Chapter 2.

#### **EXERCISES**

Order the numbers in the list from least to greatest.

7. 
$$-5.2$$
,  $-\frac{3}{8}$ ,  $-6$ ,  $0.3$ ,  $-\frac{1}{4}$ 

**8.** 2.1, 0, 
$$-\frac{13}{10}$$
, -1.38,  $\frac{3}{5}$ 

$$\left(-6, -5.2, -\frac{3}{8}, -\frac{1}{4}, 0.3\right)$$

$$(-1.38, -1.3, 0, =, 2.1)$$

For the given value of a, find -a and |a|.

9. 
$$a = -0.2$$

10. 
$$a = 3$$

11. 
$$a = \frac{7}{8}$$

12. 
$$a = -\frac{6}{11}$$

$$- a = (\frac{1}{8})$$

### **EXERCISES**

Find the sum.

14. 
$$-6 + (-4)$$





17. 
$$-\frac{4}{7} + \left(-\frac{9}{14}\right)$$

16. 
$$-4.61 + (-0.79)$$
 17.  $-\frac{4}{7} + \left(-\frac{9}{14}\right)$   $-\frac{8}{14} + \frac{9}{14} = \frac{17}{14}$ 

$$18. -\frac{4}{5} + \frac{11}{12} = \frac{-48}{60} + \frac{55}{60}$$

19. BUSINESS A company has a profit of \$2.07 million in its first year, -\$1.54 million in its second year, and -\$.76 million in its third year. Find the company's total profit for the three years.

Find the difference.



24. 
$$\frac{7}{3} - \frac{11}{3} = -\frac{4}{3}$$

**22.** 
$$7.7 - 16.3$$
**25.**  $-\frac{4}{9} - \frac{5}{12}$ 



$$\frac{-16}{36} + \frac{-15}{36} =$$



Evaluate the expression when x = 2 and y = -3.

**26.** 
$$(x-7)+y$$

**27.** 
$$\frac{3}{2} - x - y$$

**28.** 
$$y = (2.4 - x)$$

28. 
$$y-(2.4-x)$$
 (-3) -  $[2.4-(2)]$  =

$$[(a)-1]+(-3)$$

$$\frac{3}{2}$$
 - (2) - (-3) =

$$-3 - [.4] =$$
 $-3 + -.4 =$ 

$$(-3.4)$$

Find the product.



31. 
$$-\frac{2}{5}(-8)(-9)$$
 =

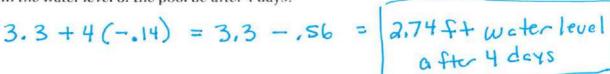
Find the product. Justify your stops

**32.** 
$$-4(-y)(-7)$$

**33.** 
$$-\frac{1}{3}x \cdot (-18)$$



35. **SWIMMING POOLS** The water level of a swimming pool is 3.3 feet and changes at an average rate of -0.14 feet per day due to water evaporation. What will the water level of the pool be after 4 days?



Use the distributive property to write an equivalent expression.

36. 
$$8(5-x)$$
 40-8x =

37. 
$$-3(y+9)$$

38. 
$$(z-4)(-z)$$

37. 
$$-3(y+9)$$
  $(3y-2+)$  38.  $(z-4)(-z)$   $(-2^2+42)$ 

Simplify the expression.

**39.** 
$$3(x-2) + 14$$

**40.** 
$$9.1 - \widehat{4(m+3.2)}$$
 **41.**  $5n + \frac{1}{2}(8n - 7)$ 

**41.** 
$$5n + \frac{1}{2}(8n - 7)$$

$$3x - 6 + 14$$
 $3x + 8$ 

$$9.1 - 4m - 12.8$$

42. PARTY COSTS You are buying 10 pizzas for a party. Cheese pizzas cost \$11 each, and single topping pizzas cost \$13 each. Write an equation that gives the total cost C (in dollars) as a function of the number p of cheese pizzas that you buy. Then find the total cost if you buy 4 cheese pizzas.

C= total cost (\$)

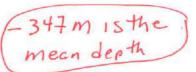
$$C = totalcost($)$$
  
 $P = \#of Cheese pizzals$ 

Cost if you buy 4 Cheeze Pizzes (2) = 130 - 2(4) = 122Costs \$122 FOR PIZZA

#### Find the quotient.

45. 
$$-\frac{4}{9} \div \left(-\frac{2}{3}\right)$$
 $-\frac{3}{2}$ 
 $-\frac{3}{2}$ 
 $-\frac{3}{2}$ 

46. SCIENCE A scientist studies the diving abilities of three seals and records the elevations they reach before swimming back up to the surface. Find the mean of the following elevations (in meters) recorded: -380, -307, -354.



#### Simplify the expression.

47. 
$$\frac{24x-40}{8}$$

**48.** 
$$\frac{-36m+18}{6}$$

$$-\frac{36m}{6} + \frac{18}{6}$$

**49.** 
$$\frac{-18n-9}{-9}$$

$$\frac{-18N}{-9} + \frac{-9}{-9}$$

## Evaluate the expression.

## Approximate the square root to the nearest integer.

$$\sqrt{1289} - \sqrt{324}$$

# Order the numbers in the list from least to greatest.

**58.** 
$$-\sqrt{49}$$
,  $-6.8$ , 2,  $\sqrt{3}$ , 1.58

**59.** 1.25, 
$$\sqrt{11}$$
,  $-0.3$ ,  $0$ ,  $-\sqrt{4}$