

NAME: _____

UNIT 1 • RELATIONSHIPS BETWEEN QUANTITIES

Lesson 1: Interpreting Structure in Expressions

Practice 1.1.1: Identifying Terms, Factors, and Coefficients

For problems 1 and 2, identify the terms, coefficients, constants, and factors of the given expressions.

1. $12a^3 + 16a + 4$

2. $21x^2 + 3x - 15x^2 + 9$

For problems 3 and 4, translate each verbal expression to an algebraic expression. Then, identify the terms, coefficients, and constants of the given expressions.

3. half the sum of x and y decreased by one-third y

4. the product of 5 and the cube of x , increased by the difference of 6 and x^3

5. Write an expression with 4 terms, containing the coefficients 3, 6, and 9.

continued

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For problems 6–10, write an algebraic expression to describe each situation. Then, identify the terms, coefficients, constants, and factors.

6. Gavin agrees to buy a 6-month package deal of monthly gym passes, and in turn receives a 15% discount. Write an algebraic expression to represent the total cost of the monthly passes with the discount, if x represents the cost of each monthly pass.

7. Andre purchased 10 cans of tennis balls from an online store and received a 25% discount. Shipping cost \$5.99. Write an algebraic expression to represent the total cost of the tennis balls with the shipping cost, if x represents the cost of each can.

8. Nadia and some friends went to a movie. Their total cost was \$30.24, which included taxes of \$2.24. Write an algebraic expression to represent the price of each movie ticket, not including taxes. Let x represent the number of Nadia's friends that went to the movies.

9. The area of a trapezoid can be found by multiplying the height of the trapezoid by half of the sum of base_1 and base_2 .

10. The surface area of a cylinder with radius r and height h is twice the product of π and the square of the radius plus twice the product of π , the radius, and the height.