|  |  |  |
| --- | --- | --- |
| Chapter 3 | Algebraic Expressions and Properties | |
| Date: | Lesson 3.1 Algebraic Expressions | |
| Essential Question | How can you write and evaluate an expression that represents a real-life problem? | |
| Vocabulary | |  |  |  | | --- | --- | --- | | Vocab | Definition | Example | | algebraic expression | an expression that may contain numbers, operations, and one or more symbols |  | | term | a part of an algebraic expression |  | | variable | a letter that represents a number |  | | coefficient | the numerical factor of a term that has a variable |  | | constant | a term without a variable |  | | |
| Practice | |  |  |  |  |  | | --- | --- | --- | --- | --- | | algebraic expression | term(s) | coefficient(s) | variable | constant | | 1) |  |  |  |  | | 2) |  |  |  |  | | 3) |  |  |  |  | | |
| Practice | 4) | 5) |
| 6) | 7) |
| Practice | 8) Evaluate c – 24 when c = 51. | 9) Evaluate when h = 4.6 and k = 25. |
| 10) Evaluate when x = 2.4. |
| Practice | 11) Evaluate when y = 6 | 12) Evaluate when y = 2 |
| Practice | 13) You want to buy a skateboard that costs $125. Your aunt gives you $45 for your birthday. You save $4 each week. The expression 45 + 4w gives the amount of money you save after w weeks. After 20 weeks, will you have enough money to buy the skateboard? Show your work. | |

|  |  |  |
| --- | --- | --- |
| Chapter 3 | Algebraic Expressions and Properties | |
| Date: | Lesson 3.2 Writing Expressions | |
| Essential Question | How can you write an expression that represents an unknown quantity? | |
| Key Words | Refer to the chart from the first week of school. Additional key words:  Cubed means to the third power; y3  Squared means to the second power; y2  Doubled or twice means multiply by 2 | |
| IMPORTANT! | The phrases “fewer than” or “less than” mean you must switch the order of the numbers  Examples: 6 fewer than 14 means 14 – 6  15 less than y means y - 15 | |
| Practice | 1) the sum of 16 and 4 | 2) the quotient of the number 24 and 3 |
| 3) the product of 7 and 4 | 4) 15 less than 45 |
| Practice | 5) 25 less than a number *b* | 6) a number *x* divided by 4 |
| 7) the total of a number *t* and 11 | 8) 100 decreased by a number *k* |
| Practice | 9) Your friend has 5 more than twice as many game tokens as your sister. Let t be the number of game tokens your sister has. Write an expression for the number of game tokens your friend has. | |
| 10) You have $300 in your bank account. You earn $50 every weekend babysitting. Let w stand for the number of weekends you babysit. Write an expression to find out how much money you will have in your bank account after a certain number of weekends. | |
|  | 11) John has 7 less than 3 times as many quarters as Scott. Write an expression to tell how many quarters John has.  How many quarters does John have if Scott has 8? | |

|  |  |  |
| --- | --- | --- |
| Chapter 3 | Algebraic Expressions and Properties | |
| Date: | Lesson 3.3 Properties of Addition and Multiplication | |
| Essential Question | Does the order in which you perform an operation matter? | |
| Vocab | |  |  |  | | --- | --- | --- | | Vocab | Definition | Example | | equivalent expressions | 2 or more expressions that have the same value | 5 + 6 = 3 + 8  or  3 x 10 = 6 x 5 | | commutative property of addition | changing the order of addends does not change the sum | 12 + 7 and 7 + 12  have the same value | | commutative property of multiplication | changing the order of factors does not change the product | 4 x 5 and 5 x 4 have the same product | | associative property of addition | changing the grouping of addends does not change the sum | (7 + 4) + 2 = 7 + (4 + 2) | | associative property of multiplication | changing the grouping of factors does not change the product | (3 x 5) x 2 = 3 x (5 x 2) | | |
| Practice  Simplify each expression. Tell what property you used. | 1) (9 + a) + 10 | 2) (4n)5 |
| Vocab | |  |  |  | | --- | --- | --- | | Vocab | Definition | Example | | addition property of zero | The sum of any number and 0 is that number | 7 + 0 = 7  or  a + 0 = a | | multiplication property of zero | The product of any number and 0 is 0 | or | | multiplication property of one | The product of any number and 1 is that number | or | | |
| Practice  Simplify each expression. Explain each step. | 3) 1 *m* 24 | 4) 12 *b* 0 |
| Practice | 5) The length of one side of a square is 3x. Write an expression to find the perimeter of the square. Then simplify the expression and explain each step. | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Chapter 3 | Algebraic Expressions and Properties | | | |
| Date: | Lesson 3.4 The Distributive Property | | | |
| Essential Question | How do you use mental math to multiply two numbers? | | | |
|  | Find the product of 6 x 47 without setting the problem up vertically. | | | |
| Practice | 1) Use mental math to solve 3 x 76. | | | |
| Vocab | |  |  |  | | --- | --- | --- | | Distributive Property | when the number outside the parentheses uses the multiplication symbol, and the numbers inside the parentheses use addition or subtraction, multiply the outside number by each number inside the parentheses | Example | | | | |
| Write an expression using the distributive property for each expression. Then solve your expression. | 2) 9 x 19 | | 3) 37 x 8 | |
| Practice | 3) 3(11 – d) | 4) 10(9 + 3y) | | 5) 7(2 + 6 – 4f) |
| Like Terms | Like terms are terms that we can combine. The + or – goes with the term that follows the operation symbol.  Example: | | | |
| Practice | 7) 8 + 3*z* – 2 – *z* | | 8) 3(*b* + 5) + *b* + 2 | |