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| Chapter 7 | Equations and Inequalities | |
| Date: | Lesson 7.1 Writing Equations in One Variable | |
| Essential Question | How does rewriting a word problem help you solve the word problem? | |
| Vocab | |  |  |  | | --- | --- | --- | | Word | Definition | Examples | |  | a mathematical sentence without an answer |  | |  | a mathematical sentence that uses an equal sign (=) to show that two expressions are equal |  | | |
| Practice  Write each word sentence as an equation | 1) 9 less than a number b equals 2. | 2) The quotient of a number q and 4 is 12. |
| 3) The product of a number g and 5 is 30. | 4) A number k increased by 10 is the same as 24. |
| Practice  Write an equation in one variable for each situation. | 5) After two rounds, 24 students are eliminated from a spelling bee. There are 96 students remaining. Write an equation you can use to find the number of students that started the spelling bee.   * Cross off info you don’t need. * Draw a picture to help you visualize. * Turn your picture into words. * Add symbols to make your equation. * Choose a variable and write your equation | |
| 6) together you and a friend have $52. Your friend has $28. Write an equation you can use to find how much money you have. | |
| 7) You enter an elevator and go down 7 floors. You exit on the 10th floor. Write an equation you can use to find the floor where you entered the elevator. | |
|  | 8) Write an equation for each sentence to find which sentence is different. Circle the equation that is different.  a) A number n minus 4 equals 8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  b) 4 less than a number n is 8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  c) a number n is 4 less than 8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  d) 4 subtracted from a number n is 8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

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| Chapter 7 | Equations and Inequalities | | |
| Date: | Lesson 7.2 Solving Equations Using Addition or Subtraction | | |
| Essential Question | How can you use addition or subtraction to solve an equation? | | |
| Vocab | A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an equation is a value that makes the equation true. It is the answer that fits in the blank. | | |
| Practice  Tell whether the given value is a solution of the equation. | 1) 35 = 7n; n = 5 | 2) 9 – g = 5; g = 3 | 3) = 28; q = 14 |
| Inverse Operations | Inverse operations are opposite operations and will “undo” each other. Addition and subtraction are inverse operations. | | |
| Key Idea |  | | |
| Practice  Solve | 4) x + 2 = 9 | 5) 26 = 11 + x | 6) 15 = r - 6 |
| Practice | 7) You eat 8 blueberries and your friend eats 11 blueberries from a package. There are 23 blueberries left. Write and solve an equation to find the number of blueberries that were in the full package. | | |
| Practice | 8) Write and solve an addition equation to find *x*. | | |

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| Chapter 7 | Equations and Inequalities | | | |
| Date: | Lesson 7.3 Solving Equations Using Multiplication or Division | | | |
| Essential Question | How can you use multiplication or division to solve an equation? | | | |
| Key Idea |  | | | |
| Reminder | To cancel a fraction, multiply by its reciprocal.  Example: | | | |
| Practice  Solve. | 1) | 2) | 3) | 4) |
| Key Idea |  | | | |
| Practice  Solve. | 5)  5a = 15 | 6)  9y = 72 | 7) | 8) |
| Practice  Solve. | 9) | | 10) | |
| Practice | 11) You and four friends buy tickets to a baseball game. The total cost is $70. Write and solve an equation to find the cost of each ticket. | | | |

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| Chapter 7 | Equations and Inequalities | |
| Date: | Lesson 7.4 Writing Equations in Two Variables | |
| Essential Question | How can you write an equation in two variables? | |
| Vocab | |  |  | | --- | --- | | Word | Definition | | Equation in two variables | Two quantities that change in relationship to one another | | Solution of an equation in two variables | Ordered pair that makes the equation true (x, y) | | |
| Practice  Tell whether the ordered pair is a solution of the equation. | 1) y = 7x ; (2, 21) | 2) y = 5x + 1 ; (3, 16) |
| Vocab | |  |  | | --- | --- | | Word | Definition | |  | the variable that represents the quantity that can change by itself | |  | the value that depends on the other variable | | |
| Practice | 3) The equation y = 10x + 25 gives the amount y (in dollars) in your savings account after x weeks.  a) Identify the independent and dependent variables.  independent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  dependent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    b) How much is in your savings account after 8 weeks? | |
| 4) You buy a new phone for $350. Your cell phone service costs $30 each month. The equation y = 350 + 30m gives the amount of money you will pay for your phone and service after m months.  a) Identify the independent and dependent variables.  independent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  dependent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  b) How much will you pay after 5 months? | |
| Key Idea | You can use tables and graphs to represent equations in two variables.    When you draw a line through the points, you graph ALL solutions. | |
| Practice | 5) A cheese pizza costs $5. Additional toppings cost $1.50 each.  a) Write and graph an equation using 2 variables to find the total cost of a pizza with toppings.  b) Identify the independent and dependent variables.  independent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  dependent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  c) What is the cost of a pizza with 3 toppings? | |
|  | 6) It costs $35 to join a gym. The monthly fee is $25.  a) Write and graph an equation using 2 variables to find the cost of being a member of the gym.  b) Identify the independent and dependent variables.  independent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  dependent variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  c) What is the cost of a gym membership for a year? | |
| Key Idea |  | |

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| Chapter 7 | Equations and Inequalities | | | |
| Date: | Lesson 7.5 Writing and Graphing Inequalities | | | |
| Essential Question | How can you use a number line to represent solutions of an inequality? | | | |
| Vocab | An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a mathematical sentence that compares expressions.  Example: | | | |
| Inequality Symbols |  | | | |
| Practice  Write the word sentence as an inequality. | 1) A number n is greater than or equal to 1. | | | |
| 2) Twice a number p is equal to or less than 7. | | | |
| 3) A number w minus 3 is fewer than 10. | | | |
| 4) A number z divided by 2 is at least -6. | | | |
| Vocab | A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a value that makes the inequality true. There may be more than one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | Example:    Are the following values of x possible solutions?  x = 3? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  x = 4? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  x = 5? | |
| A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the set of all solutions of an inequality. | | Example:  The solution set for the example above is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Practice  Tell whether 3 is a solution of the inequality. | 5) b + 4 < 6 | 6) 9 – n 6 | | 7) 18 x 10 |
| Graph of an Inequality | All of the solutions of an inequality are shown on a number line.  Use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_when the number is NOT part of the solution.  Use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_when the number IS part of the solution.  The arrow to the right or left shows that the graph continues in that direction. | | | |
| Practice | 8) Graph a < 4 | | | |
| 9) Graph 6 > n 0 | | | |
| 10) Graph f -8 | | | |
| Practice  Write an inequality and a word sentence that represents each graph. | 11)  6 7 8 9 10 11 12 | | | |
| 12)    -10 -9 -8 -7 -6 -5 -4 | | | |

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| Chapter 7 | Equations and Inequalities |
| Date: | Lessons 7.6 and 7.7 Solving Inequalities Using Addition, Subtraction, Multiplication, or Division |
| Essential Question | How can you use addition or subtraction to solve an inequality? |
| Key Idea |  |
| Practice | 1) Solve 10 x – 1. Graph the solution. |
| 2) Solve x – 2 < 3. Graph the solution. |
| Practice | 3) Solve y + 2 < 17. Graph the solution. |
| 4) Solve 16 m + 9. Graph the solution. |
| Practice | 5) Solve 3 > 2. Graph the solution. |
| 6) Solve . Graph the solution. |
| Practice | 7) Solve 11d 33. Graph the solution. |
| 8) Solve . Graph the solution. |
| Practice | 9) The toll for driving on Alligator Alley is $2.50 for passenger cars. Write and solve an inequality to represent the number of times a person in a passenger car can drive on Alligator Alley with $15. |