| 1.2 Powers and Exponents (online textbook pgs. 10-15) | |
|---|--|
| A) Write the product as a power. 11 ● 11 ● 11 ● 11 ● 11 | B) Find the value of the power. 2 ⁵ |
| C) Describe and correct the error. 8³ = 8 ● 3 = 24 | D) Is the number a perfect square? 125 Why or Why not? |
| E) What is the value of 7³? A. 21 B. 49 | F) Complete the table. Power 4 ⁵ 4 ⁴ 4 ³ 4 ² 4 ¹ Value 1024 |
| C. 343 D. 2187 | Describe what happens to the value of the power as the exponent decreases. Use this pattern to find the value of 4^{0} . |
| Why? | |
| G) Consider the equation 56 = 2. The missing number is between what two numbers? | H) A checker board has 64 squares. How many squares are in each row? |
| How do you know? | How do you know? |

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| 1.3 Order of Operation (online textbook pgs. 16-21) | |
|---|---|
| A) Find the value of the expression. 42 ÷ (15 – 2³) | B) Evaluate the expression. (5 ² − 4) ● 2 − 18 |
| C) Evaluate the expression. <u>6(3 + 5)</u> 4 | D) Insert +, -, x or ÷ symbols to make each statement true. 27 3 5 2 = 19 |
| E) Evaluate the expression. 4 ² ● 5 ² + 20 ÷ 2 | F) Eighty students are going on a field trip to a history museum. The total cost includes 2 bus rentals at \$960 per bus and \$10 per student for lunch. Write an expression to find the total cost per student. |
| A. 210 | |
| B. 410 | Solve. |
| C. 50 | |
| D. 2186 | |
| G) Which operation should you perform first when | H) Before a show, there are 8 people in a theater. |
| you evaluate the expression: $15 - 8 \div (4 - 2) \times 3$ | of 2 people leave. Evaluate the expression |
| A. Subtract 8 from 15 | 8 + 5(4) - 3(2) to find how many people are in the theater |
| B. Divide 8 by 4 | |
| C. Subtract 2 from 4 | |
| D. Multiply 2 by 3 | |
| Why? | |

| 3.2 Writing Expressions (online textbook pgs. 118-123) | |
|---|---|
| A) Write the phrase as an expression. 7 increased by a number w | B) Write the phrase as an expression. a number t cubed |
| C) Write the expression as a phrase. the sum of a number x and 4, all divided by 3 | D) Write the expression as a phrase. 14 – 3z |
| D) Kent says that $x + x$ and x^2 are equivalent because they each have a value of 4 when $x = 2$. Which statement demonstrates whether Kent is correct? A. Kent is correct because $x + x$ is the same as $2x$ and $2x$ is the same as x^2 . | E) An ice cream shop charges \$3.39 for a dish of ice cream. A customer can also order toppings for \$0.59 each. If <i>x</i> represents the number of toppings, which expression can be used to determine the total charge, in dollars, for a dish of ice cream with <i>x</i> toppings? A. 339<i>x</i> + 0.59 |
| B. Kent is correct because the two expressions are equivalent when $x = 0$. | B. 3.39 + 0.59x C. 3.98 + x |
| C. Kent is not correct because the two expressions do not have the same value when $x = 1$. | D. 3.98x |
| D. Kent is not correct because expressions can never be equivalent if they use different operations. | |
| G) Sheryl earns money by walking dogs and mowing lawns. She earns \$3 for each dog she walks, and \$25 for each lawn she mows. Which expression shows the amount of money Sheryl earns from walking <i>w</i> dogs and mowing <i>m</i> lawns. A. 3w + 25m B. 28(w + m) C. 3w + 25 D. 75(w + m) | H) A pet sitting service charges \$23 for the first visit and \$19 for each additional visit in a week. If v represents the number of visits in a week, which expression can be used to determine the total charge, in dollars, for v visits? A. 23v - 19 B. 23 + 19v C. 23 + 19(v - 1) D. 23 + 19(v + 1) |
| How do you know? | How do you know? |

| 3.1 Algebraic Expressions (online textbook pgs. 110-117) | | | | |
|--|--|--|--|-------------------------------------|
| A) Write the expression using exponents. 2.1 • x • z • z • z • z | B) Name the parts of the algebraic expression: 3r² + 9m + 2r² + 5r + 6 Circle "like terms" that could be combined. List any variables: List any coefficients: List any constants: | | | |
| C) Evaluate expression when $a = 10$, $b = 9$, and $c = 4$. | D) Complete | the table. | 4 | o |
| 3a + 20 - 12.3 | 5 <i>x</i> - 3 | 2 | 4 | 0 |
| E) A player's score in the game of horseshoes is based on the number of "ringers" <i>r</i> and the numbers of horseshoes closest to the stake <i>c</i> that a player | F) The express flip flops from describes the c | ion 8.97f + 4.3 a catalog. Wh cost of the flip | 35 describe the ich of the follo flop order? | total cost of <i>f</i> wing best |
| throws. Use the formula below to determine the score of a player who throws 4 ringers and 7 horseshoes closest to the stake. | A. Each pair of shipping fee pe | f flip flops cost er pair of flip fl | s \$8.97, and th ops. | ere is a \$4.35 |
| 3r + c | B. Each pair of discount per or | flip flops cost rder. | s \$8.97, and th | ere is a \$4.35 |
| | C. Each pair of discount per pa | flip flops cost air of flip flops | s \$8.97, and th | ere is a \$4.35 |
| | D. Each pair of shipping fee pe | f flip flops cost er order. | ts \$8.97, and th | ere is a \$4.35 |
| | How do you kn | iow? | | |
| G) Standard movie rentals cost \$3, and new releases | H) Which wo | rd sentence i | s represented | l by the |
| rentals. Which expression tells you how much money you will need? | equation $\frac{b}{3} =$ | 16? | | |
| | A. The quotie | ent of a numb | per b and 3 eq | uals 16. |
| A. $3X + 4y$ | B. The produ | ct of a numb | er b and 3 equ | uals 16. |
| B. $4x + 3y$ | C The differen | anco of a num | aborb and 2 - | auals 16 |
| C. $7(x + y)$ | c. me dinere | | | equais 10. |
| | D. Three divi | ded by a num | nber b equals | 16. |
| How do you know? | How do you k | now? | | |
| | | | | |

| 3.3 Properties of Addition and Multiplication (online textbook pgs. 126-131) | |
|--|---|
| A) Tell which property the statement illustrates. $4 \bullet (x \bullet 10) = (4 \bullet x) \bullet 10$ | B) Tell which property the statement illustrates. (c + 2) + 0 = c + 2 |
| C) Simplify the expression. 6(2b) | D) Simplify the expression. (2.4 + 4n) + 9 |
| Which property did you use? | Which property did you use? |
| E) Which equation is true for all numbers a? | F) What property was used to simplify the expression? |
| A. $a + 0 = a$ B. $a \bullet 0 = a$ | 25 + 17 + 75 = 25 + 75 + 17 = 100 + 17 = 117 |
| C. $a + 1 = 1$ | A. addition property of zero |
| D. <i>a</i> ● 1 = 1 | B. distributive property |
| Which property is shown in the correct response? | C. commutative property of additionD. associative property of addition.How do you know? |
| G) Which equation is NOT true for all numbers <i>n</i> ? | H) A case of Scout cookies has 10 cartons. A carton |
| A. $n + 8 = 8 + n$ | has 12 boxes. The amount you earn on a whole case is 10(12<i>x</i>) dollars. |
| B. <i>n</i> + 0 = <i>n</i> | What does <i>x</i> represent? |
| C. $n \ge 8 \ge n$ | Simplify the expression. |
| D. $n \ge 0 = n$ | |
| How do you know? | |
| | What property did you use? |

| 3.4 Distributive Property (online textbook pgs. 132-139) | | |
|---|---|--|
| A) Show the distributive property and solve. 5 x 41 | B) Show the distributive property and solve. 6(37) | |
| C) Show the distributive property and simplify. 9(3 + c + 4) | D) Show the distributive property and simplify. 7(p + q + 9) | |
| E) This soccer season, Gavin scored 9 fewer than 3 | F) Mr. Aarav paid a total of \$588 to stay in a hotel | |
| times the number of goals that Rico scored. Rico | and park his car for 3 nights. Each night the hotel | |
| scored 12 goals. The value of which expression is | charged h dollars for a room and \$15 for parking. | |
| equivalent to a number of goals Gavin scored? | The equation represents the total amount, in dollars, | |
| A 2(A 2) | Mr. Aarav paid for 3 nights. $2(h + 4\Gamma) = \Gamma \rho \rho$ | |
| A. $5(4-5)$ | S(7 + 15) = 500 | |
| $P_{2}(12 - 0)$ | | |
| -5(12-5) | Δ \$181 | |
| C = 9(4 - 1) | | |
| | B \$191 | |
| D. $9(36 - 1)$ | | |
| | C. \$201 | |
| How do you know? | | |
| | D. \$211 | |
| G) Each weekday, a factory produces 16 truckloads | H) Mrs. May asked her students to write equivalent | |
| of canned corn and 12 truckloads of canned peas. | expressions. Circle the student(s) who did this. | |
| The expression 5(16 + 12) represents the total | | |
| number of cans produced each week. Which | iol | |
| expression is equivalent? | 5(2x + 8y) and $7x + 13y$ | |
| A. 21 + 12 | Mical | |
| | 5(6 + 9y) and 24 + 21y | |
| B. 21 + 17 | | |
| | Aryana | |
| C. 80 + 12 | 8(x + 7y) and 8x + 56y | |
| | | |
| D. 80 + 60 | | |
| How do you know? | How do you know? | |
| | | |

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| 3.4 Extension – Factoring Expressions (online textbook pgs. 140-141) | |
|---|--|
| A) Factor the expression using the GCF. 60 – 36 | B) Factor the expression using the GCF. 100 – 80 |
| C) Factor the expression using the GCF. 36x + 9 | D) Factor the expression using the GCF. 24y + 88x |
| E) Gracie is rewriting the expression (24 + 40) as an integer times the sum of two integers. By factoring out a 2, she knows she can rewrite the expression as 2 times the sum of two integers. What are all the other numbers greater than 2 that Gracie can factor out of (24 + 40)? A. 4, 8 B. 4, 6, 8 C. 3, 5, 6, 10, 12, 20 D. 3, 4, 5, 6, 8, 10, 12, 20 | F) Which expression is NOT equivalent to 40 – 8x? A. 2(20 – 4x) B. 4(10 – 2x) C. (8 – 2x)5 D. (5 – x)8 How do you know? |
| G) Mrs. Seager's daughter is y years old. Mrs. Seager's age can be represented by the expression 6y - 4. Which expression also represents Mrs. Seager's age, in years? A. $2(3y - 4)$ B. $2(3y - 2)$ C. $3(2y - 1)$ D. $3(2y - 4)$ How do you know? | H) Use the distributive property to write 3 expressions that are equivalent to 8 <i>x</i> + 16. |

| 7.1 Writing Equations in One Variable (online textbook pgs. 294-299) | |
|--|--|
| A) Write the word sentence as an equation. 54 equals 9 more than a number t. | B) Write the word sentence as an equation. 5 is one-fourth of a number c. |
| C) Write a word sentence for the equation 12p = 78. | D) Describe and correct the error. A number n is 5 more than 12. n + 5 = 12 |
| E) Students and faculty raised \$6042 for band uniforms. The faculty raised \$1780. Write an equation you can use to find the amount <i>a</i> raised by the students. | F) You sell instruments at a Caribbean music festival. You earn \$326 by selling 12 sets of maracas at \$14 each, 6 claves at \$5 each, and x djembe drums at \$16 each. Write an equation you can use to find the number of djembe drums you sold. |
| G) Write a word sentence for the equation 28 – n = 5. | H) A typical person takes about 24,000 breaths each <u>day</u> . Write an equation you can use to find the number of breaths <i>b</i> a typical person takes each <u>minute</u> . |