Name Block

Assessment 4 Review Guide

6.NS.4 Greatest Common Factor and Least Common Multiple

1. Find the least common multiple and greatest common factor of each pair of numbers:

|  |  |  |
| --- | --- | --- |
|  | Least Common Multiple | Greatest Common Factor |
| 12 and 30 |  |  |
| 3 and 5 |  |  |
| 20 and 30 |  |  |
| 8 and 10 |  |  |

2. You are planning a party and coming up with seating charts. You can either have your guests in tables of 8 or 10. What is the smallest number of people that you could have at the party?

3. Today, Ellis and Jackson eat lunch at the same time. Jackson eats his lunch at this time every 6 days. Ellis eats his lunch at this time every 8 days. After how many days will they eat lunch at the same time again?

**6.EE.1 Writing and Evaluating Expressions**

4. Write each expression using an exponent:

 = \_\_\_\_\_ $9∙9∙9∙9=\\_\\_\\_\\_\\_$ $2∙2∙2∙2∙2∙2$ = \_\_\_\_\_

5. Evaluate the expressions. Show your work.

 a.  b. (0.12)2

 c. 80 – 18 $∙$ 1/3 ÷ 2 + 1 d. 42 ÷ 3 x (1/2) + 9 – 32

**6.EE.2 Write, Read, and Evaluate Expressions with Variables**

6. Write an expression to model each situation:

a. The difference of 12 and a number *a*.

b. The product of 8 and *r*.

c. Three times the sum of a number *x* and 6.

d. The sum of 10 and the quotient of 12 and *s*.

e. Subtract 4 from x, then multiply the result by 2.

 f. Joanne is selling 15 books at *d* dollars per book.

g. Cat purchased 4 theatre tickets for *x* dollars each and a $25.00 program.

h. Jessica has 12 boxes of books, that each contain *b* books.

i. Nicole has 14 fewer points than Tom, who has *x* points.

7. Identify the parts of each expression in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **8x – 9 + 12y** | **6x – 15** | **9x2 - 3x + 1** |
| **Variable(s)** |  |  |  |
| **Constant** |  |  |  |
| **Coefficient of x** |  |  |  |
| **Number of Terms** |  |  |  |

8. Evaluate the expressions for the given values of the variables.

; if *a* = 2 and *b* = 4

$2x^{2}+6y-z$ ; if x = 5, y = 3, and z = 4

9. The expression 6s2 can be used to find the surface area of a square with side s.

 a) What is the surface area of a square whose side measures 9 cm? Show your work.

 b) What is the surface area of a square whose side measures 2.3 in? Show your work.

**6.EE.3 Simplify Expressions**

10. Circle the mistakes in the following solutions and explain the errors. Then, write the corrected steps. Show your work.

a) $15x+2∙6+3(2x-6)$ b) $3∙2^{2}+6\left(3x-1\right)+9x$

 $15x+2∙6+6x-6$ $3∙2^{2}+18x-6+9x$

 $15x+12+6x-6$ $6^{2}+18x-6+9x$

 $21x+6$ $36+18x-6+9x$

$$27x+30$$

11. Simplify each expression:

 a.  b. 5(*x* + 8) – 5

12. Jessica grows two different types of flowers as shown below.

x ft.

5 ft.



8 ft.

daffodils

roses

1. Write an expression for the total area of Jessica’s garden using the variable *x*.
2. If *x* = 6 feet, what is the area of Jessica’s garden? Show your work.

**6.EE.4 Identifying Equivalent Expressions**

13. There are 5 expressions listed below. Test each expression to determine if it is equivalent to the expression **10*x* – 4**. Fill in the table to show your work.

|  |  |  |
| --- | --- | --- |
| **Expression** | **Work** | **Equivalent to 10x – 4? (Yes or No)** |
| 2(5*x* – 2) |  |  |
| 5*x* + 8 + 5*x* + 4 |  |  |
| 10(*x* + 4) |  |  |
| 10 + 6*x* + 4*x* |  |  |
| 2(5*x* + 2) + 8 |  |  |

14. Allison said that the expression 7*x* + 4*x* **always** equals 11x. Julianne said that 7*x* + 4*x* **always** equals 11. Who is correct? Justify your answer.

15. Are the expressions 6 + 4(2*x* + 5) + 4*x* and 12*x* + 20 equivalent? Justify your answer.

16. Are the expressions 7(3*x* + 5) – 6*x* – 1 and 15*x* + 4 equivalent? Justify your answer.

17. Which of the following are equivalent to 7*r* – 9 + 3 – 2*r*? Select all correct answers.

a) 5*r* + 6 b) 9*r* – 6 c) 5*r* – 6 d) 4*r* – 6 + 3*r* e) 5*r* + 12