**End of Unit Expressions STUDY GUIDE**

**Write the correct answer in the blank at the right of each question.**

**Show all of your work!**

1. Name the property that is shown by each equation.

 4*x* • 1 = 4*x* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a + (b + c) = (b + c) + a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(a + b) + c = a + (b + c) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5m + 0 = 5m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

25• 0 = 0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3(m + 2) = 3(m) + 3(2) = 3m + 6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **2.** Use the Distributive Property to write −5(*n* − 8) as an equivalent expression.

 **3.** Simplify the expression 6(5*x* − 7) − 2(2*x* + 4).

 **4.** Find the GCF of 32*c* and80*d*.

 **5.** Factor this expression: 36*h* + 60

 **6.** Add (−15*x* + 9) + (6*x* − 18).

 **7.** Subtract (5*x* − 16) − (−3*x* − 5).

 **8.** A rectangular poster has an area of (28*x* + 49) inches. Factor the expression 28*x* + 49 to find the dimensions of the poster. Draw and label the poster.

**2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**End of Unit Expressions STUDY GUIDE**

**9.** Write an algebraic expression for each verbal phrase.

a.The quotient of 5 and a number increased by 4

b. Six less than eight times a number

 c. Nine times the difference of a number and two

 d. The product of a number and 3 decreased by 7

**10.** Write the expression 5*a* − 3(*a* − 6) in simplest form.

**11.** Simplify the expression 7(5x − 4).

**12.** Evaluate the expression 8*b* − 4*d* if *b* = −7 and *d* = 5.

**13.** Evaluate the expression $\frac{12b}{a}$ if *b* = 4 and *a* = −2.

**14.** Lynn and Jack are baking batches of cookies where each batch contains c cookies.  They baked three batches Wednesday, five batches on Thursday, and then an additional 10 cookies on Friday.Write an expression to represent the total number of cookies baked.

**15.** Simplify $\frac{1}{4}$(8a + 12c) – 6($\frac{1}{3}$a – c)

**16.** Factor each expression. If an expression cannot be factored, explain why.

 12z + 8 15 – 45m 24g2 + 36h 8m – 15n

**9a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9d. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**12. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**13. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**14. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**15. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**