

Expressions and Equations Review

Number _____ Name _____ Period _____

Indicate the answer choice that best completes the statement or answers the question.

Evaluate each expression if $a = -4$, $b = 3$, $c = -2$, and $d = -1$.

1. $7 + 2b$

$7 + 2 \cdot 3$

$7 + 6$

13

2. $9 - c$

$9 - (-2)$

$9 + 2$

11

3. $2b^2 - 12$

$2 \cdot 3 \cdot 3 - 12$

$6 \cdot 3 - 12$

$18 - 12$

6

Use the Distributive Property to rewrite each expression.

4. $-3(2 - 4n)$

$-3 \cdot 2 = -6$

$-3 \cdot -4n = 12n$

$12n - 6$

5. $5(3m + 2)$

$5 \cdot 3m = 15m$

$5 \cdot 2 = 10$

$15m + 10$

Simplify the expressions.

6. $3a(4)$

$12a$

7. $-a + 7b - 6a - 9b$

$\frac{a}{-1a} \quad \frac{b}{7b}$

$\frac{-6a}{-6a} \quad \frac{-9b}{-9b}$

$-7a - 2b$

8. What property is being shown here: $x + (y + z) = (x + y) + z$

The Associative Property of Addition

9. Explain why subtraction is NOT commutative.

because you get a different answer.
 $4 - 2 = 2$ but $2 - 4 \neq 2$

Simplify to find an equivalent expression. Write your answer in the line provided. Show all of your work.

10. $2 - 5(3 - 2x)$

$-5 \cdot 3 = -15$

$-5 \cdot -2x = 10x$

$10x - 15 + 2$

$\frac{x}{10x} \quad \frac{\#}{-15}$
 $\frac{2}{2}$
 $10x - 13$

11. $-2(3x - 10) + 12$

$-2 \cdot 3x = -6x$

$-2 \cdot -10 = 20$

$-6x + 20 + 12$

$\frac{x}{-6x} \quad \frac{\#}{20}$
 $\frac{12}{12}$
 $-6x + 32$

12. $(-3x + 7) + (18x - 5)$

$-3x + 7 + 18x - 5$

$\frac{x}{-3x} \quad \frac{\#}{7}$
 $\frac{18x}{18x} \quad \frac{-5}{-5}$

$15x + 2$

13. $(2y + 10) - (4y - 8)$

$2y + 10 - 4y + 8$

$\frac{y}{2y} \quad \frac{\#}{10}$

$\frac{-4y}{-4y} \quad \frac{8}{8}$

$-2y + 18$

14. Factor: $18x - 27$

$9(2x - 3)$

15. Explain why these two expressions are NOT equivalent.

$2x + 3 - 9x$ and $11x + 3$

$\frac{x}{2x} \quad \frac{\#}{-9x}$
 $\frac{-7x}{-7x} \quad \frac{3}{3}$
 $-7x + 3$

because $-7x + 3 \neq 11x + 3$