

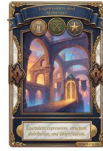
Expressions and Structure

Equivalent expressions, structure, distribution, and simplification.

Name _____ Date _____

32 main 2-up grid 2 pages

Completion Reward



Shown here as a small pack artifact, not a preview destination.

1. In the expression $x + 5$, what does x represent?

- A. Always the number 1
- B. A multiplication symbol
- C. A value that can vary
- D. A fixed operation

2. What is the coefficient in $-4x$?

- A. 4
- B. -4
- C. x
- D. $-x$

3. What is the constant term in $3x^2 - 2x + 5$?

- A. 3
- B. -2
- C. x^2
- D. 5

4. What is the coefficient of p in $-6p + 9$?

- A. 6
- B. 9
- C. p
- D. -6

5. If c is the number of concert tickets, what does $12c$ represent?

- A. The cost of tickets at \$12 each
- B. 12 more tickets than c
- C. The ticket number 12
- D. The cost of one ticket plus c

6. Is $3a + 2$ an expression or an equation?

- A. Equation
- B. Inequality
- C. Expression
- D. Function

7. Which statement is an equation?

- A. $3x + 5 = 17$
- B. $3x + 5$
- C. $4y - 2$
- D. $8 + n$

8. Which expression means five less than y ?

- A. $y - 5$
- B. $5 - y$
- C. $5y$
- D. $y + 5$

9. Which expression is equivalent to $4x + 3x - 2$?

- A. $7x - 2$
- B. $7x + 2$
- C. $12x - 2$
- D. $4x + x - 2$

10. A student evaluates $4x + 1$ at $x = 2$ and writes $42 + 1$. What is the mistake?

- A. They should have added 4 and 1 first.
- B. They treated $4x$ like the digits 4 and 2 together instead of 4 times 2.
- C. They should have squared the 2 before substituting.
- D. They should have changed x to 1 instead of 2.

11. A student says $7 + 2x = 9x$. What is the mistake?

- A. 7 is not a like term with $2x$, so they cannot be combined into $9x$.
- B. The 7 should be multiplied by x first.
- C. You should always square the variable term.
- D. The expression should simplify to $14x$.

12. A student says $2x + 3 = 5x$. What is the mistake?

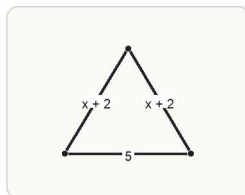
- A. The answer should be $6x$.
- B. You should subtract x first.
- C. There is no mistake.
- D. $2x$ and 3 are not like terms.

13. Evaluate $n/2 + 7$ when $n = 10$. Answer with a number.

14. Evaluate $2x + 3$ when $x = 4$. Answer with a number.

15. Expand $3(x + 4)$. Answer with an equivalent expression.

16. Which expression gives the perimeter of the triangle?



Add the three side lengths to write the perimeter expression.

- A. $3x + 9$
- B. $2x + 7$
- C. $2x + 9$
- D. $3x + 7$

17. A rectangle has length $x + 4$ and width 3. Which expression gives its perimeter?

- A. $x + 7$
- B. $2x + 14$
- C. $2x + 7$
- D. $x + 14$

18. Which expression is equivalent to $-(x - 4)$?

- A. $-x - 4$
- B. $-x + 4$
- C. $x - 4$
- D. $x + 4$

19. Which expression is equivalent to $5y + 2 - 3y + 7$?

- A. $8y + 9$
- B. $2y + 5$
- C. $2y + 9$
- D. $5y + 9$

22. What is the best next step to simplify $2(x + 5) + 3x$?

- A. Combine 5 and $3x$.
- B. Distribute the 2 to get $2x + 10 + 3x$.
- C. Multiply x by 5.
- D. Subtract $3x$ from both sides.

25. A student says $x + x^2 = x^3$. What is wrong?

- A. Addition does not combine unlike terms into a higher power
- B. $x + x^2$ always equals 0
- C. The student should subtract instead
- D. Nothing is wrong

28. Evaluate $3x - 4$ when $x = 6$. Answer with a number.

31. For $5(x + 2) - 5x$, which explanation is most efficient?

- A. Distribute 5, then notice $5x$ and $-5x$ cancel.
- B. Combine x and 2 inside the parentheses first.
- C. Square the expression to remove the parentheses.
- D. Subtract $5x$ from x before doing anything else.

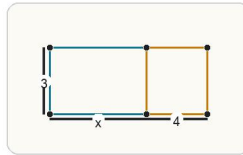
20. Which expression is equivalent to $2(3x - 1) + 4$?

- A. $6x - 2$
- B. $6x + 2$
- C. $5x + 3$
- D. $3x + 3$

23. What is the best next step to simplify $4x + 2x - 1$?

- A. Combine $2x$ and -1 .
- B. Subtract x from both sides.
- C. Multiply everything by x .
- D. Combine $4x$ and $2x$.

26. A student says $3(x + 2) = 3x + 2$. What is wrong?



A factor outside parentheses scales every region inside.

- A. The 2 should be squared.
- B. The x should be squared.
- C. Nothing is wrong.
- D. The 3 must multiply both x and 2.

29. Which expression is equivalent to $9 - 2(3 - k)$?

- A. $-2k + 3$
- B. $2k - 3$
- C. $6 - 2k$
- D. $2k + 3$

32. For $2(x + 3) + x$, which simplified result is correct?

- A. $2x + 3 + x$
- B. $2x + 3x$
- C. $x + 6$
- D. $3x + 6$

21. Which expression is equivalent to $4(a + 3) - 2a$?

- A. $2a + 7$
- B. $6a + 3$
- C. $2a + 12$
- D. $4a + 1$

24. A student says $-3(x - 2) = -3x - 2$. What is wrong?

- A. Only the x should be multiplied by -3 .
- B. The -3 must multiply both terms, so $-3(-2)$ becomes $+6$.
- C. The expression should stay in parentheses forever.
- D. The result should be $-3x - 6$.

27. Which expression is equivalent to $4x + 7 - x + 3$?

- A. $3x + 10$
- B. $5x + 10$
- C. $3x + 4$
- D. $4x + 10$

30. Which expression is equivalent to $8m - 3(m - 2)$?

- A. $5m + 6$
- B. $5m - 6$
- C. $11m - 2$
- D. $11m + 6$