

Grade 6 - Equivalent Expressions and the Distributive Property - Quiz

Common Core 6.EE.A.3, 6.EE.A.4 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This quiz has 10 multiple-choice questions on equivalent expressions, the distributive property, and combining like terms (Common Core 6.EE.A.3 and 6.EE.A.4). Choose one answer for each and read the explanation.

Grade 6 · Common Core State Standards: **6.EE.A.3, 6.EE.A.4**

Questions

Question 1

Which expression is equivalent to $3(x+4)$?

- A. $3x+4$
- B. $x+12$
- C. $3x+12$
- D. $3x+7$

Question 2

Simplify $5a+2a$.

- A. $7a^2$
- B. $7a$
- C. $10a$
- D. 7

Question 3

Which shows $6x+9$ factored?

Term	Factor 3
6x	$3 \times 2x$
9	3×3

GCF of the terms.

- A. $6(x+9)$
- B. $3(2x+9)$

- C. $9(x+1)$
- D. $3(2x+3)$

Question 4

Which pair of expressions is equivalent?

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

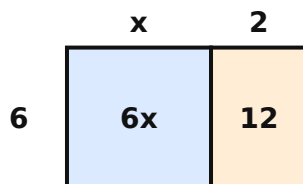
Question 5

Simplify $4y+3+2y-1$.

- A. $8y$
- B. $6y+4$
- C. $6y+2$
- D. $10y$

Question 6

A rectangle has height 6 and width $x+2$. Which expression gives its area?



Area model.

- A. $6x+12$
- B. $6x+2$
- C. $x+12$
- D. $8x$

Question 7

Which is NOT equivalent to $2x+2x$?

- A. $4x$
- B. $x+4$
- C. $x+x+x+x$
- D. $2(x+x)$

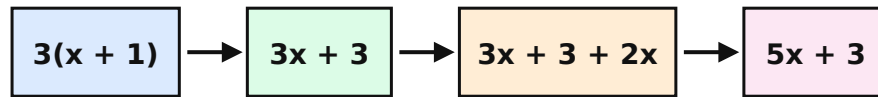
Question 8

What is $8(y-2)$ without parentheses?

- A. $8y-2$
- B. $8y-16$
- C. $8y+16$
- D. $y-16$

Question 9

Simplify $3(x+1)+2x$.



Distribute first.

- A. $5x+3$
- B. $5x+1$
- C. $6x$
- D. $3x+5$

Question 10

Two students simplify $2x+5x$. Maya says $7x$ and Jamal says $7x^2$. Who is correct?

- A. Maya, because adding like terms adds the coefficients
- B. Jamal, because the exponents add
- C. Both, because the answers are equal
- D. Neither, because the terms cannot be combined

Answers

1. **C** - 3 times x is $3x$ and 3 times 4 is 12. Forgetting to multiply 4 gives $3x + 4$.
2. **B** - Add the coefficients: $5+2=7$.
3. **D** - The GCF is 3: $6x = 3 \times 2x$ and $9 = 3 \times 3$.
4. **D** - The distributive property gives $2x + 6$.
5. **C** - $4y + 2y = 6y$ and $3-1=2$.
6. **A** - $6(x + 2) = 6x + 12$.
7. **B** - $2x + 2x = 4x$. When $x = 3$, $x + 4 = 7$ but $4x = 12$.
8. **B** - Multiply both terms by 8: $8y - 16$.
9. **A** - $3x + 3+2x = 5x + 3$.
10. **A** - Like terms combine: $2x + 5x = 7x$. Squaring would require multiplication.

Remember

- Equivalent expressions have the same value for every value of the variable.
- Distributive property: $a(b + c) = ab + ac$.
- Like terms have the same variable part and can be combined.
- Factor out the GCF to reverse the distributive property.
- Substitute values to test whether two expressions are equivalent.