

Grade 7 · Equivalent Expressions · Quiz

Common Core 7.EE.A.1, 7.EE.A.2 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

Ten multiple-choice questions check your skill with equivalent expressions: combining like terms, expanding, factoring, and rewriting a price plus tax. Pick the one correct answer for each question, then read the explanation to learn from any mistake.

Grade 7 Common Core: 7.EE.A.1 · 7.EE.A.2

Questions

Question 1

Which expression is equal to $7x+3x-4x$?

- A. $6x$
- B. $14x$
- C. $8x$
- D. 6

Question 2

Which expression is equivalent to the total area of the rectangle?



Rectangle for question 2.

- A. $4x+5$
- B. $x+20$
- C. $4x+9$
- D. $4x+20$

Question 3

Which expression is equivalent to $3x-7+5x+2$?

- A. $8x+5$
- B. $8x-9$
- C. $8x-5$

D. $-2x-5$

Question 4

Which shows $18x+27$ factored with the greatest common factor?

- A. $3(6x+9)$
- B. $9(2x+27)$
- C. $18(x+27)$
- D. $9(2x+3)$

Question 5

Which expression is equivalent to $-2(x-6)$?

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

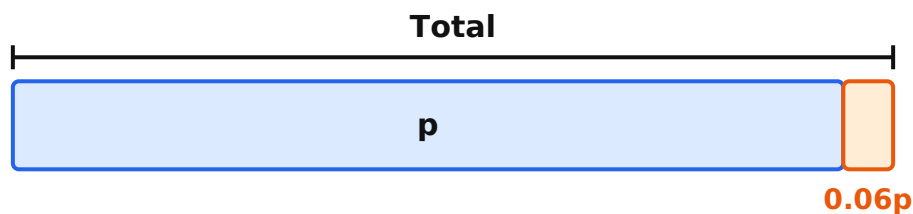
Question 6

Which expression equals $(6x+5)-(2x+3)$?

- A. $4x+8$
- B. $4x+2$
- C. $8x+2$
- D. $4x-2$

Question 7

A shirt costs p dollars and sales tax is 6%. Which expression gives the total cost?



A shirt with 6% sales tax.

- A. $0.06p$
- B. $1.06p$
- C. $p+6$
- D. $1.6p$

Question 8

Which expression is equivalent to $\frac{1}{2}(8x-6)+x$?

- A. $5x-6$

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

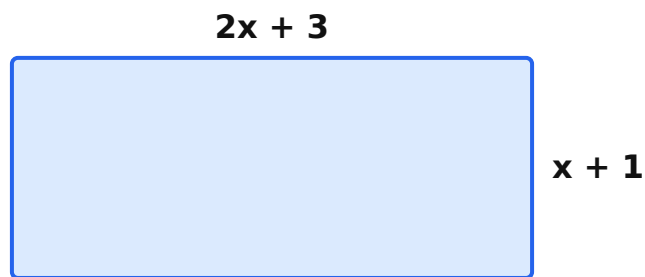
Question 9

Which expression is NOT equivalent to $2x+6$?

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

Question 10

Which expression gives the perimeter of the rectangle?



Not drawn to scale.

- A. $6x+4$
- B. $3x+4$
- C. $8x+6$
- D. $6x+8$

Answer key

1. **A** - Combine the coefficients: $7+3-4=6$, so the answer is $6x$. Adding all three gives $14x$, and dropping the variable gives 6.
2. **D** - Height 4 times width $x+5$ gives $4x+20$. Multiplying only the first term gives $4x+5$.
3. **C** - $3x+5x=8x$ and $-7+2=-5$. Using $+7$ gives $8x+5$, and $-7-2$ gives $8x-9$.
4. **D** - The greatest common factor of 18 and 27 is 9, giving $9(2x+3)$. The form $3(6x+9)$ is equivalent but still has a common factor of 3.
5. **A** - $-2 \cdot x = -2x$ and $-2 \cdot (-6) = +12$. A negative times a negative is positive, so $-2x-12$ is wrong.
6. **B** - Subtract each term: $6x-2x=4x$ and $5-3=2$. Adding the 3 instead of subtracting it gives $4x+8$.
7. **B** - Total = price + tax = $p+0.06p=1.06p$. The expression $0.06p$ is only the tax.
8. **C** - $\frac{1}{2}(8x-6)=4x-3$, then $4x-3+x=5x-3$. Forgetting to halve the 6 gives $5x-6$.
9. **A** - $2(x+6)=2x+12$, which is different. The other three all equal $2x+6$.
10. **D** - The perimeter is $2(2x+3)+2(x+1)=4x+6+2x+2=6x+8$. Adding each side only once gives $3x+4$.

Remember:

- Standards 7.EE.A.1 and 7.EE.A.2: add, subtract, factor and expand linear expressions with rational coefficients, and rewrite expressions to see meaning.
- Like terms have the same variable part; combine them by adding or subtracting coefficients.
- Distributive property: $a(b+c)=ab+ac$; factoring is the same step run backward.
- Subtracting a quantity changes the sign of every term inside it.
- Rewriting $p+0.05p$ as $1.05p$ shows that a 5% increase is the same as multiplying by 1.05.