



Equivalent expressions

GRADE 6 MATH

Name _____

Date _____

Work through the sheet in order. Show either a simplification or at least two test values; final verdicts go in the boxes. One skill: **equivalent expressions**.

WORKED EXAMPLE

Equivalent means **equal for every value**. Two ways to decide: **simplify or expand** until the forms match, or **substitute at least two different values**. Avoid testing only $x = 0$ or $x = 1$ — too many non-equivalent pairs agree there.

1. Are $2x$ and $5x$ equivalent? Test $x = 0$ and $x = 3$, then decide.

FLUENCY

Show your thinking

Answer

2. Are $5(x + 1)$ and $5x + 5$ equivalent? Explain.

FLUENCY

Show your thinking

Answer

3. Are $x + x + x$ and $3x$ equivalent? Explain.

FLUENCY

Show your thinking

Answer

4. Are $7x - 3x$ and $4x$ equivalent? Explain.

APPLICATION

Show your thinking

Answer

5. Are $4(x + 1)$ and $4x + 1$ equivalent? Expand and test.

APPLICATION

Show your thinking

Answer

6. Are $2x + 6$ and $2(x + 3)$ equivalent? Explain using factoring.

APPLICATION

Show your thinking

Answer

7. Are $6x + 3$ and $3(2x + 1)$ equivalent? Show it two different ways.

REASONING

Show your thinking

Answer

8. Ben tests $x = 0$ on $2x$ and $5x$, gets 0 for both, and says they are equivalent. Explain his error.

REASONING

Show your thinking

Answer

9. Are x^2 and $2x$ equivalent? They both equal 4 when $x = 2$. Test another value and decide.

REASONING

Show your thinking

Answer