Same Value, Every Time: Worked Answers

Each problem solved the way the lesson does it.

Name: _____ Date: _____

1. Is 3(x + 5) equivalent to 3x + 5? Explain.
   - Expand: 3(x + 5) = 3x + 15.

   Answer: No. 3(x + 5) = 3x + 15.

2. Is 8y − 3y + 2 equivalent to 5y + 2?
   - Combine: 8y + (−3y) = 5y.

   Answer: Yes. Both are 5y + 2.

3. Is −4(a − 2) equivalent to −4a − 8? Explain.
   - Expand: −4a + (−4) × (−2) = −4a + 8.

   Answer: No. −4(a − 2) = −4a + 8.

4. Is 2(3m + 1) + 2m equivalent to 8m + 2?
   - Expand: 6m + 2 + 2m.
   - Combine: 8m + 2.

   Answer: Yes.

5. Which are equivalent to 6 − 3x? A. 3(2 − x) B. −3(x − 2) C. −3(x + 2)
   - A is 6 − 3x. B is −3x + 6. C is −3x − 6.

   Answer: A and B

6. What number goes in the box? 4(x + □) = 4x + 20
   - 4 times the box is 20.
   - 20 ÷ 4 = 5.

   Answer: 5

7 Nia says $2x + 2$ and $4x$ are equivalent because both equal 4 when $x = 1$. Is she right?

- Try $x = 2$: $2(2) + 2 = 6$, but $4(2) = 8$.

Answer: No. One matching number does not prove it.

8 Is $10 - 2(x - 3)$ equivalent to $16 - 2x$?

- Expand: $10 + (-2x) + 6$.
- Combine: $16 - 2x$.

Answer: Yes.