

Equivalent Algebraic Expressions: math test solutions, Grade 7 – download the PDF

Test solutions with the detailed point scale. Add up your points and spot what to review.

Suggested time: 45 minutes. Out of 20 points. Calculator allowed only when the problem says so.

1 Combine like terms

/ 4 pts

- a. $13x - 3$ (1 pt)
- b. $9a + 5$ (1 pt)
- c. $4m - 4n$ (1 pt)
- d. $y + 2$ (1 pt)

2 Expand and simplify

/ 4 pts

- a. $4x + 24$ (1 pt)
- b. $-6y + 10$ (1 pt)
- c. $6a + 3 + 4a = 10a + 3$ (1 pt)
- d. $5m + 10 - 3m + 12 = 2m + 22$ (1 pt)

3 Factor**/ 3 pts**

- a. $5(3x + 4)$ (1 pt)
- b. $6(2y - 3)$ (1 pt)
- c. $4(2a + 3b - 1)$ (1 pt)

4 Add and subtract**/ 3 pts**

- a. $9x + 4$ (1 pt)
- b. $7y + 2 - 4y + 6 = 3y + 8$ (1 pt)
- c. $2a + 5 - 5a + 1 = -3a + 6$ (1 pt)

5 Are they equivalent?**/ 3 pts**

- a. $3(x + 2) - x = 3x + 6 - x = 2x + 6$ (1 pt), so the two are equivalent (1 pt).
- b. $3 \cdot 6 - 4 = 14$ and $2 \cdot 4 + 6 = 14$, the same value (1 pt).

6 Rectangular garden**/ 3 pts**

- a. Area = $6(x + 4) = 6x + 24$ square feet (1 pt)
- b. Perimeter = $2 \cdot 6 + 2(x + 4) = 2x + 20$ feet (1 pt)
- c. Area = $6 \cdot 9 + 24 = 78 \text{ ft}^2$ and perimeter = $2 \cdot 9 + 20 = 38 \text{ ft}$ (1 pt)

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