More Than One Kind: Worked Answers

Each problem solved the way the lesson does it.

Name: _____ Date: _____

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1. Simplify 3x + 5y + 4x + 2y

   - Sort: (3x + 4x) + (5y + 2y).

   Answer: 7x + 7y

2. Simplify 6a − 3b − 2a + 8b

   - Add the opposite: 6a + (−3b) + (−2a) + 8b.
   - Sort: (6a + (−2a)) + ((−3b) + 8b).

   Answer: 4a + 5b

3. Simplify 9p + 2 − 4q − 9p + 5

   - Sort: (9p + (−9p)) + (−4q) + (2 + 5).
   - 9p and −9p add to 0.

   Answer: −4q + 7

4. Simplify −2x + 7y − 3 + 5x − 7y

   - Invisible signs: (−2x) + 7y + (−3) + 5x + (−7y).
   - The y terms cancel.

   Answer: 3x − 3

5. Is 4m + 3n the same as 7mn? Why or why not?

   - 4m and 3n have different variables, so they are unlike terms.
   - Check with m = 1, n = 1: 4 + 3 = 7, but with m = 2, n = 1: 8 + 3 = 11 and 7(2)(1) = 14.

   Answer: No. 4m + 3n is already as simple as it gets.

6. Simplify 1.5x + 2.5y − 0.5x + y

   - Sort: (1.5x + (−0.5x)) + (2.5y + 1y).

   Answer: x + 3.5y

7 Simplify a + b + a + b + a

- Invisible 1s: 1a + 1b + 1a + 1b + 1a.
- Sort: (1a + 1a + 1a) + (1b + 1b).

Answer: 3a + 2b

8 Simplify 8x − 8 + 8y − 8x

- Sort: (8x + (−8x)) + 8y + (−8).

Answer: 8y − 8