

Lesson 3-2: Solving Multi-Step Equations

Part 1: Using the Distributive Property to Combine Like Terms

1. What is the solution of the equation $3y - 5y + 10 = 36$?
[A] -13 [B] 2 [C] 4.5 [D] 13
2. Sara's telephone service costs \$21 per month plus \$0.25 for each local call, and long-distance calls are extra. Last month, Sara's bill was \$36.64, and it included \$6.14 in long-distance charges. How many local calls did she make?
3. What is the value of x in the equation $\frac{x}{2} + \frac{x}{6} = 2$?
[A] 3 [B] $\frac{1}{4}$ [C] 8 [D] 12
4. What is the solution set of the equation $\frac{x}{5} + \frac{x}{2} = 14$?
[A] {10} [B] {4} [C] {20} [D] {49}

Part 2: Using the Distributive Property to Solve Equations

5. Solve for x : $15x - 3(3x + 4) = 6$
[A] $\frac{1}{3}$ [B] $-\frac{1}{2}$ [C] 1 [D] 3

6. What is the value of n in the equation $0.6(n + 10) = 3.6$?
[A] 5 [B] -4 [C] -0.4 [D] 4
7. What is the value of p in the equation $2(3p - 4) = 10$?
[A] $\frac{1}{3}$ [B] $2\frac{1}{3}$ [C] 3 [D] 1
8. Parking charges at Superior Parking Garage are \$5.00 for the first hour and \$1.50 for each additional 30 minutes. If Margo has \$12.50, what is the maximum amount of time she will be able to park her car at the garage?
[A] $2\frac{1}{2}$ hours [B] $6\frac{1}{2}$ hours
[C] $3\frac{1}{2}$ hours [D] 6 hours
9. Mario paid \$44.25 in taxi fare from the hotel to the airport. The cab charged \$2.25 for the first mile plus \$3.50 for each additional mile. How many miles was it from the hotel to the airport?
[A] 12 [B] 13 [C] 11 [D] 10
10. A candy store sells 8-pound bags of mixed hazelnuts and cashews. If c pounds of cashews are in a bag, the price p of the bag can be found using the formula $p = 2.59c + 1.72(8 - c)$. If one bag is priced at \$18.11, how many pounds of cashews does it contain?

[1] A _____

[2] 38 and an appropriate method is shown,
such as $36.64 - (21 + 6.14) = 9.50$ and $\frac{9.50}{.25} =$
38 or an equation such as $21 + .25c + 6.14 =$
36.64.

[1] 38 and no work is shown.

or [1] An appropriate method or equation is
shown, but one computational mistake is
made.

or [1] The answer of \$9.50 for local calls is
found but is not divided by .25.

[0] A zero response is completely incorrect,
irrelevant, or incoherent or is a correct
response that was obtained by an obviously

[2] incorrect procedure. _____

[3] A _____

[4] C _____

[5] D _____

[6] B _____

[7] C _____

[8] C _____

[9] B _____

[2] 5 and appropriate work is shown, such as
substituting \$18.11 for p and solving the
equation correctly, or trial and error with at
least three trials and appropriate checks.

[1] Appropriate work is shown, but one
computational error is made.

or [1] Appropriate work is shown, but one
conceptual error is made.

or [1] 5, but no work or fewer than three trials
with appropriate checks are shown.

[0] A zero response is completely incorrect,
irrelevant, or incoherent or is a correct
response that was obtained by an obviously

[10] incorrect procedure. _____