Lesson 3-1: Solving Two-Step Equations

Part 1: Solving Two-Step Equations

1. 010636a, P.I. A.A.22

   Solve for x: $\frac{1}{16}x+\frac{1}{4}=\frac{1}{2}$

2. 080708a, P.I. A.A.22

   In the equation $\frac{1}{4}n+5=5\frac{1}{2}$, n is equal to

   [A] $\frac{1}{8}$ [B] 8 [C] $\frac{1}{2}$ [D] 2

3. 080219a, P.I. A.A.6

   If $2x + 5 = -25$ and $-3m - 6 = 48$, what is the product of x and m?

   [A] 270 [B] -33 [C] 3 [D] -270

4. 060519a, P.I. A.A.6

   If $-2x+3=7$ and $3x+1=5+y$, the value of y is

   [A] 10 [B] 0 [C] 1 [D] -10

5. 080213a, P.I. A.A.6

   How many times larger than $\frac{1}{4}x$ is $5x$?

   [A] 9 [B] 20 [C] $\frac{4}{5}$ [D] $\frac{5}{4}$

6. 010801a, P.I. A.A.6

   Robin spent $17 at an amusement park for admission and rides. If she paid $5 for admission, and rides cost $3 each, what is the total number of rides that she went on?

   [A] 2 [B] 12 [C] 4 [D] 9

7. 060409a, P.I. A.A.6

   At the beginning of her mathematics class, Mrs. Reno gives a warm-up problem. She says, "I am thinking of a number such that 6 less than the product of 7 and this number is 85." Which number is she thinking of?

   [A] $11\frac{2}{7}$ [B] 13 [C] 637 [D] 84

8. 010733a, P.I. A.A.6

   Every month, Omar buys pizzas to serve at a party for his friends. In May, he bought three more than twice the number of pizzas he bought in April. If Omar bought 15 pizzas in May, how many pizzas did he buy in April?

9. 060233a, P.I. A.N.5

   Mr. Perez owns a sneaker store. He bought 350 pairs of basketball sneakers and 150 pairs of soccer sneakers from the manufacturers for $62,500. He sold all the sneakers and made a 25% profit. If he sold the soccer sneakers for $130 per pair, how much did he charge for one pair of basketball sneakers?

[3] 4, and appropriate work is shown.
[2] Appropriate work is shown, but one computational error is made.
[1] Appropriate work is shown, but two or more computational errors are made.
or [1] Appropriate work is shown, but one conceptual error is made.
or [1] 4, but no work is shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

[1]

[2] D

[3] A

[4] D

[5] B

[6] C

[7] B

[2] 6, and appropriate work is shown, such as solving the equation $2x + 3 = 15$ 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] A correct equation is written, but no further correct work is shown.
or [1] The trial-and-error method is attempted and at least six systematic trials and appropriate checks are shown, but no solution is found.
or [1] 6, but no work or fewer than three trials and 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 incorrect procedure.

[8]

[4] $167.50, and appropriate work is shown, such as $350x + (150)(130) = 1.25(62{,}500)$ or trial and error with at least three trials with appropriate checks.
[3] Appropriate work is shown, but one computational error is made.
[2] Appropriate work is shown, but more than one computational error is made.
or [2] $167.50, but only one trial with an appropriate check is shown.
[1] $167.50, but no work is shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

[9]