

The Distributive Property Exit Quiz

Simplify the following expressions:

1. $\frac{3}{4}(5a + 2) - \frac{1}{2}(3a - 5)$

2. $-\frac{2}{5}(2x + 3) + \frac{3}{4}(3x - 7)$

3. $7 - 2(5n - 8m)$

4. $3(2a - 4b) - 4(a - 3b)$

5. Kelly bought \$478 worth of books and notebooks. Each book cost \$14 and each notebook cost \$3. If 42 items is bought, how many books and notebook did Kelly bought?

Let: $x = \text{number of books}$
 $42 - x = \text{number of notebooks}$

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ANSWER

Simplify the following expressions:

$$\begin{aligned}
 1. \quad & \frac{3}{4}(5a + 2) - \frac{1}{2}(3a - 5) \\
 &= \frac{3}{4}(5a + 2) - \frac{2}{4}(3a - 5) \\
 &= \frac{15a + 6}{4} - \frac{6a - 10}{4} \\
 &= \frac{15a + 6 - 6a + 10}{4} \\
 &= \frac{9a + 16}{4}
 \end{aligned}$$

$$\begin{aligned}
 2. \quad & -\frac{2}{5}(2x + 3) + \frac{3}{4}(3x - 7) \\
 &= -\frac{8}{20}(2x + 3) + \frac{15}{20}(3x - 7) \\
 &= \frac{-16x - 24}{20} + \frac{45x - 105}{20} \\
 &= \frac{-16x - 24 + 45x - 105}{20} \\
 &= \frac{29x - 129}{20}
 \end{aligned}$$

$$\begin{aligned}
 3. \quad & 7 - 2(5n - 8m) \\
 &= 7 - 10n + 16m
 \end{aligned}$$

$$\begin{aligned}
 4. \quad & 3(2a - 4b) - 4(a - 3b) \\
 &= 6a - 12b - 4a + 12b \\
 &= 2a
 \end{aligned}$$

5. Kelly bought \$478 worth of books and notebooks. Each book cost \$14 and each notebook cost \$3. If 42 items is bought, how many books and notebook did Kelly bought?

$$\begin{aligned}
 x &= \text{number of books} \\
 32 &= \text{number of books}
 \end{aligned}$$

$$\begin{aligned}
 42 - x &= \text{number of notebooks} \\
 42 - 32 &= 10 = \text{number of notebooks}
 \end{aligned}$$

$$\begin{aligned}
 478 &= 14x + 3(42 - x) \\
 478 &= 14x + 126 - 3x \\
 478 - 126 &= 11x \\
 352 &= 11x \\
 \frac{352}{11} &= x \\
 32 &= x
 \end{aligned}$$