

■ A. Solve the following. (4 points each)

[1]  $5(x - 1) + 5 = 2(x + 6) - 2$

[2]  $3(x - 2) = 10 - 2(x - 6)$

■ B. Fully reduce each of the following. If expression is already fully reduced, the write "Fully reduced". (9 points each)

[1]  $\frac{2a+12b}{12}$       [2]  $\frac{2a-3b}{3b-2a}$       [3]  $\frac{x+3}{2x+3}$       [4]  $\frac{2(57a-339b)}{339b-57a}$

[5]  $\frac{9-12b}{6-8b}$

■ C. Simplify the following expressions by writing as a single fully reduced fraction. (9 points each)

[1]  $\frac{x-2}{3} + \frac{2x-5}{6}$       [2]  $\frac{6x+12}{8} - \frac{3x-2}{4}$       [3]  $\frac{3x+2}{3} - \frac{2x-5}{2}$

[4]  $\frac{2x-3}{12} + \frac{2x-3}{4}$       [5]  $\frac{2(a-b)}{3} + \frac{b-a}{2}$

■ D. Solve each of the following. (9 points each)

[1]  $\frac{5-3x}{2} + \frac{2}{3} + 1 = \frac{1}{3}$       [2]  $\frac{x-5}{5} - \frac{x+2}{2} = 1$       [3]  $2\left(3x + \frac{1}{3}\right) = \frac{2x}{3}$

[4]  $\frac{2(x+3)}{5} = -\frac{x+3}{3}$       [5]  $2\left(\frac{1}{113}x + \frac{1}{117}\right) = 0$

■ E. Solve each of the following. (4 points each)

[1]  $\frac{3}{x} = 13$

[2]  $\frac{3}{x-5} + 2 = 4$

## Answers

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■ A. Solve the following. (4 points each)

[1]  $\left\{x \rightarrow \frac{10}{3}\right\}$       [2]  $\left\{x \rightarrow \frac{28}{5}\right\}$

■ B. Fully reduce each of the following. If expression is already fully reduced, the write "Fully reduced". (9 points each)

[1]  $\frac{1}{6}(a + 6b)$       [2]  $-1$       [3]  $\frac{x+3}{2x+3}$       [4]  $-2$       [5]  $\frac{3}{2}$

■ C. Simplify the following expressions by writing as a single fully reduced fraction. (9 points each)

[1]  $\frac{1}{6}(4x - 9)$       [2]  $2$       [3]  $\frac{19}{6}$       [4]  $\frac{1}{3}(2x - 3)$       [5]  $\frac{a-b}{6}$

■ D. Solve each of the following. (9 points each)

[1]  $\left\{x \rightarrow \frac{23}{9}\right\}$       [2]  $\{x \rightarrow -10\}$       [3]  $\left\{x \rightarrow -\frac{1}{8}\right\}$       [4]  $\{x \rightarrow -3\}$

[5]  $\left\{x \rightarrow -\frac{113}{117}\right\}$

■ E. Solve each of the following. (4 points each)

[1]  $\left\{x \rightarrow \frac{3}{13}\right\}$       [2]  $\left\{x \rightarrow \frac{13}{2}\right\}$