Notes 1.4: Solving Equations with Variables on Both Sides

1. $6k - 3 = 2k + 13$

$-2k \quad -2k$

$4k - 3 = 13$

$+3 \quad +3$

$\frac{4k}{4} = \frac{16}{4}$

$k = 4$

take smaller number down

2. $9t + 7 = 3t - 5$

$-3t \quad -3t$

$6t + 7 = -5$

$-7 \quad -7$

$\frac{6t}{6} = \frac{-12}{6}$

$t = -2$

3. $\frac{2}{5}n - 9 = 7 - \frac{3}{5}n$ (·5 ·5 ·5)

$2n - 9.5 = 7.5 - 3n$

$2n - 45 = 35 - 3n$

$+3n \quad +3n$

$5n - 45 = 35$

$+45 \quad +45$

$\frac{5n}{5} = \frac{80}{5}$

$n = 16$

4. $8 - \frac{1}{2}p = \frac{3}{2}p - 10$ (·2 ·2 ·2)

$16 - p = 3p - 20$

$+p \quad +p$

$16 = 4p - 20$

$+20 \quad +20$

$\frac{36}{4} = \frac{4p}{4}$

$p = 9$

No common denominator ↓ (·10 ·10 ·10 ·10)

$9 - \frac{7}{2}x = 10 + \frac{6}{5}x$

$90 - 35x = 100 + 12x$