

Algebra I

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31) $\{-36\}$	41) $\{8\}$	51) $\{4\}$
33) $\{-12\}$	43) $\{4\}$	53) $\{0\}$
35) $\{-2\}$	45) $\{6\}$	55) $\{18\}$
37) $\{-4\}$	47) $\{2\}$	57) $\{5\}$
39) $\{-4\}$	49) $\{-34\}$	59) $\{+7\}$

33) $21 = -\frac{3}{2}(x-2)$

$21 = -\frac{3}{2}x + 3$

$21 + (-3) = -\frac{3}{2}x + 3 + (-3)$

$(18 = -\frac{3}{2}x) \cdot 2$

$36 = -3x$

$\frac{36}{-3} = \frac{-3x}{-3}$

$-12 = x$

$\{-12\}$

$$37) -3 = 4(k+7) - 15$$

$$-3 + 15 = 4(k+7) - 15 + 15$$

$$12 = 4(k+7) \quad \leftarrow \text{Alternate steps from this point.} \quad \frac{12}{4} = \frac{4(k+7)}{4}$$

$$12 = 4k + 28$$

$$12 - 28 = 4k + 28 - 28$$

$$3 = k + 7$$

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

$$-4 = k$$

$$\{-4\}$$

When multiplying by 3,
use once per group.

Don't multiply by $2x - 1$.

$$41) \left(\frac{2x-1}{3} = 5 \right) \cdot 3$$

$$2x - 1 = 15$$

Finish from here.

$$51) (x - 13) - (x - 5) + 2x = 0$$

$$\underline{x} - 13 - \underline{x} + 5 + 2x = 0$$

$$2x - 8 = 0$$

Finish from here.

Because there is only addition, we can
remove the parentheses here with the
associative property.

$$53) b - (1 - 2b) + (b - 3) = -4$$

$$\underline{b} - 1 + \underline{2b} + \underline{b} - 3 = -4$$

$$4b - 4 = -4$$

Finish from here.

$$\begin{aligned}
 45) \quad 1 - \frac{3}{4}(v+2) &= -5 \\
 1 + (-1) - \frac{3}{4}(v+2) &= -5 + (-1) \\
 -\frac{3}{4}(v+2) &= -6 \quad \text{Alternate steps} \rightarrow 4 \left[-\frac{3}{4}(v+2) = -6 \right] \\
 4 \left(-\frac{3}{4}v - \frac{6}{4} = -6 \right) & \quad \quad \quad -\frac{3(v+2) = -24}{-3 \quad -3} \\
 -3v - 6 &= -24 \\
 -3v - 6 + 6 &= -24 + 6 \\
 -3v &= -18 \\
 \frac{-3v}{-3} &= \frac{-18}{-3} \\
 v &= 6 \\
 & \quad \quad \quad \{6\}
 \end{aligned}$$

$$\begin{aligned}
 55) \quad 5m - 3[7 - (1 - 2m)] &= 0 \\
 5m - 3[7 - 1 + 2m] &= 0 \\
 5m - 3[6 + 2m] &= 0 \\
 \underline{5m} - 18 - \underline{6m} &= 0
 \end{aligned}$$

Finish from here.

$$\begin{aligned}
 57) \quad 5(g-7) + 2[g - 3(g-5)] &= 0 \\
 \text{Careful! can't do} \quad 5g - 35 + 2[g - 3g + 15] &= 0 \\
 5g - 35 + 2[-2g + 15] &= 0 \\
 \underline{5g} - 35 - \underline{4g} + \underline{30} &= 0
 \end{aligned}$$

Finish from here.