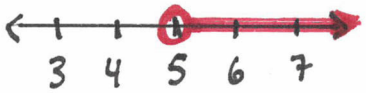
p. 87, #1-21 odd, #23, #24, #31

#1-21, Solve and graph the inequality.

① $2x - 3 > 7$

$2x > 10$

$\boxed{x > 5}$



③ $-3 \leq 1 - 8v$

$-4 \leq -8v$

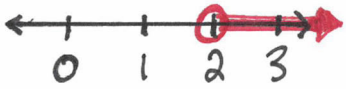
$\frac{1}{2} \geq v$ FLIP!

$\boxed{v \leq \frac{1}{2}}$

⑤ $\frac{w}{2} + 4 > 5$

$\frac{w}{2} > 1$

$\boxed{w > 2}$

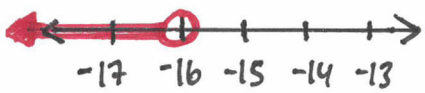


⑦ $\frac{p}{-8} - \frac{2}{5} > \frac{8}{5}$ ·40 ·40 ·40

$-5p - 16 > 64$

$-5p > 80$ FLIP!

$\boxed{p < -16}$



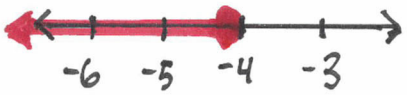
⑨ $12.6 \geq -6(a + 2)$

$12.6 \geq -6a - 12$

$24.6 \geq -6x$

$-4.1 \leq x$ FLIP!

$\boxed{x \geq -4.1}$



(11) $4 - 2m > 7 - 3m$

$+3m \qquad +3m$

$4 + m > 7$

$\boxed{m > 3}$

(13) $-2d - 2 < 3d + 8$

$-3d \qquad -3d$

$-5d - 2 < 8$

$-5d < 10$ FLIP!

$\boxed{d > -2}$

(15) $8g - 5g - 4 \leq -3 + 3g$

$3g - 4 \leq -3 + 3g$

$-3g \qquad -3g$

True! → $-4 \leq -3$

$\boxed{\text{All real numbers are solutions.}}$

(17) $6(l + 3) < 3(2l + 6)$

$6l + 18 < 6l + 18$

$-6l \qquad -6l$

$18 < 18$ ← False!

$\boxed{\text{No solution}}$

(19) $4\left(\frac{1}{2}t - 2\right) > 2(t - 3)$

$2t - 8 > 2t - 6$

$-2t \qquad -2t$

False! → $-8 > -6$

$\boxed{\text{No solution}}$

(21) $9j - 4.5 + 6j \geq 3(5j - 1.5)$

$15j - 4.5 \geq 15j - 4.5$

$-15j \qquad -15j$

$-4.5 \geq -4.5$ ← True!

$\boxed{\text{All real numbers are solutions}}$

(23)

$$\frac{x}{4} + 6 \geq 3$$

$$x + 6 \geq 12$$

$$x \geq 6$$

$\frac{x}{4} + 6 \geq 3$ ·4 ·4 ·4

$x + 24 \geq 12$

$\boxed{x \geq -12}$

When we multiply in equations, we must do it to ALL terms.

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(24)

$$-2(1 - x) \leq 2x - 7$$

$$-2 + 2x \leq 2x - 7$$

$$-2 \leq -7$$

All real numbers are solutions.

All work is correct.

But -2 is not less than or equal to -7.

$-2 \leq -7$ ← False!

$\boxed{\text{No solution}}$

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(31) Complete the inequality so that it has no solution.

$-3(2x + 1) < -8x + 2x + (-5)$

There are many possible correct answers.