

3.6 Part II

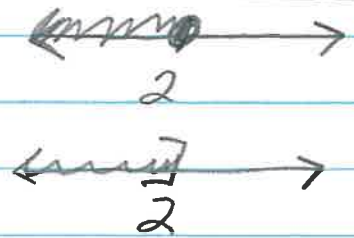
Write &
* Graph in
BOTH
inequality &
interval notation

3.6 pg. 204

#23-38 all
40 & 42

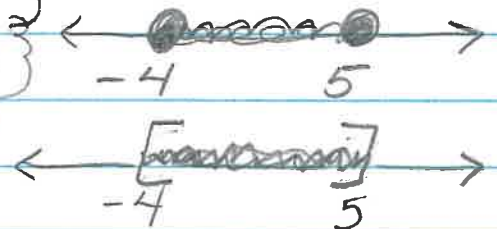
23) $(-\infty, 2]$

$x \leq 2$



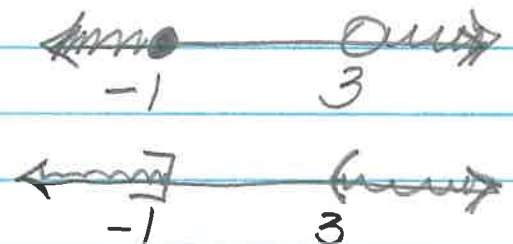
24) $[-4, 5]$

$-4 \leq x \leq 5$
 $x \geq -4$ and $x \leq 5$



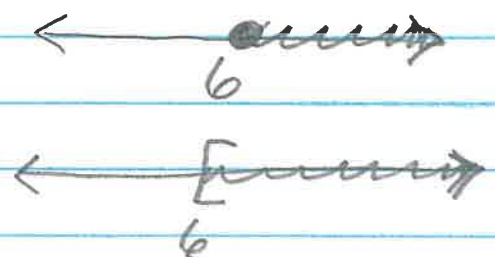
25) $(-\infty, -1]$ or $(3, \infty)$

$x \leq -1$ or $x > 3$



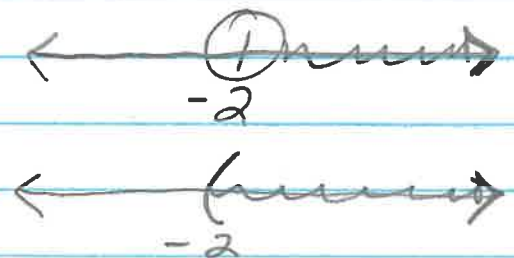
26) $[6, \infty)$

$x \geq 6$



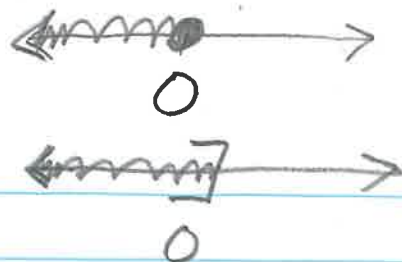
27) $x > -2$

$(-2, \infty)$



$$28) x \leq 0$$

$$(-\infty, 0]$$



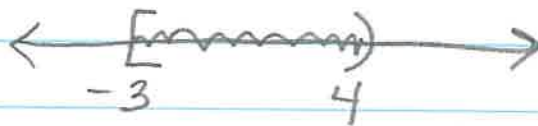
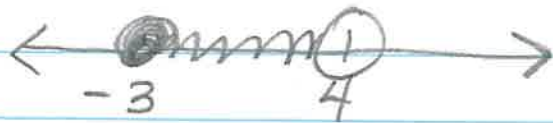
$$29) x < -2 \text{ or } x \geq 1$$

$$(-\infty, -2) \text{ or } [1, \infty)$$



$$30) -3 \leq x < 4$$

$$[-3, 4)$$



$$31) 7 < x + 6 \leq 12$$

$$\begin{array}{r} \sqrt{} \\ 7 < x + 6 \\ -6 \quad -6 \end{array}$$

$$1 < x$$

$$x > 1 \text{ and } x \leq 6$$

$$1 < x \leq 6$$

$$(1, 6]$$

$$\begin{array}{r} \searrow \\ x + 6 \leq 12 \\ -6 \quad -6 \end{array}$$

$$x \leq 6$$

$$-9 < 3m + 6 \leq 18$$

$$32) \begin{array}{l} -9 < 3m + 6 \\ -6 \quad -6 \end{array} \quad \begin{array}{l} 3m + 6 \leq 18 \\ -6 \quad -6 \end{array}$$

$$\frac{-15 < 3m}{3 \quad 3}$$

$$\frac{3m \leq 12}{3 \quad 3}$$

$$-5 < m$$

$$m > -5 \text{ and } m \leq 4$$

$$-5 < m \leq 4$$

$$(-5, 4]$$

$$33) \begin{array}{l} f + 14 < 9 \\ -14 \quad -14 \end{array} \text{ or } \begin{array}{l} -9f \leq -45 \\ -9 \quad -9 \end{array} * \text{FLIP}$$

$$f < -5 \text{ or } f \geq 5$$

$$(-\infty, -5) \text{ or } [5, \infty)$$

$$34) \begin{array}{l} 12h - 3 \geq 15h \\ -12h \quad -12h \end{array} \text{ or } \begin{array}{l} 5 > -0.2h + 10 \\ -10 \quad -10 \end{array}$$

$$\frac{-3 \geq 3h}{3 \quad 3}$$

$$\left(-5 > -\frac{1}{5}h \right) - 5$$

* FLIP

$$-1 \geq h$$

$$25 < h$$

$$h \leq -1 \text{ or } h > 25$$

$$(-\infty, -1] \text{ or } (25, \infty)$$

$$35) \begin{array}{l} -3 < x < 4 \\ x > -3 \text{ and } x < 4 \\ (-3, 4) \end{array}$$

$$x < -2 \text{ or } x \geq 1$$

$$(-\infty, -2) \text{ or } [1, \infty)$$

36)

$$x \geq 3 \text{ and } x < 6$$

$$3 \leq x < 6$$

$$[3, 6)$$

$$38) \quad 4r - 3 > 11 \quad \text{or} \quad 4r - 3 \leq -11$$

$$+3 \quad +3$$

$$+3 \quad +3$$

$$\frac{4r}{4} > \frac{14}{4}$$

$$\frac{4r}{4} \leq \frac{-8}{4}$$

$$r > \frac{7}{2}$$

$$r \leq -2$$

$$r > \frac{7}{2} \quad \text{or} \quad r \leq -2$$

$$(-\infty, -2] \text{ or } (\frac{7}{2}, \infty)$$

$$40) \quad \frac{4y+2}{5} - 5 > 3 \quad \text{or} \quad \frac{4-3y}{6} > 4$$

$$\frac{4y+2}{5} - 5 > 3$$

$$+5 \quad +5$$

$$\left(\frac{4-3y}{6} > 4 \right) 6$$

$$4-3y > 24$$

$$-4 \quad -4$$

$$5 \left(\frac{4y+2}{5} > 8 \right)$$

$$\frac{-3y}{-3} > \frac{20}{-3}$$

$$4y+2 > 40$$

$$-2 \quad -2$$

* FLIP

$$\frac{4y}{4} > \frac{38}{4}$$

$$y < -\frac{20}{3}$$

$$y > \frac{19}{2}$$

or

$$(-\infty, -\frac{20}{3})$$

or

$$(\frac{19}{2}, \infty)$$

$$7.2 \leq \frac{x + 7.4 + 7.9}{3} \leq 7.8$$

42)

$$7.2 \leq \frac{x + 7.4 + 7.9}{3}$$

$$\frac{x + 7.4 + 7.9}{3} \leq 7.8$$

$$3 \left(7.2 \leq \frac{x + 15.3}{3} \right)$$

$$\left(\frac{15.3 + x}{3} \leq 7.8 \right)$$

$$21.6 \leq x + 15.3$$

$$-15.3 \quad -15.3$$

$$6.3 \leq x$$

$$x + 15.3 \leq 23.4$$

$$-15.3 \quad -15.3$$

$$x \leq 8.1$$

$$x \geq 6.3 \quad \text{and} \quad x \leq 8.1$$

between 6.3 and 8.1 inclusive