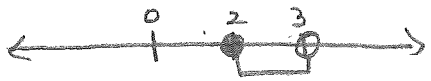
Pages 308-309 Exercises 12-15, 17-27, 29-33

(12) $5h-4 \geq 6$ and $7h+11 < 32$

$+4 \quad +4$ | $-11 \quad -11$

$\frac{5h}{5} \geq \frac{10}{5}$ | $\frac{7h}{7} < \frac{21}{7}$

$h \geq 2$ | $h < 3$

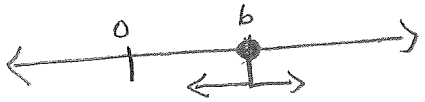


(13) $22 \geq 4m-2$ or $5-3m \leq -13$

$+2 \quad +2$ | $-5 \quad -5$

$\frac{24}{4} \geq \frac{4m}{4}$ | $\frac{-3m}{-3} \leq \frac{-18}{-3}$

$6 \geq m$ | $m \geq 6$



(14) $-4a+13 \geq 29$ and $10 < 6a-14$

$-13 \quad -13$ | $+14 \quad +14$

$\frac{-4a}{-4} \geq \frac{16}{-4}$ | $\frac{24}{6} < \frac{6a}{6}$

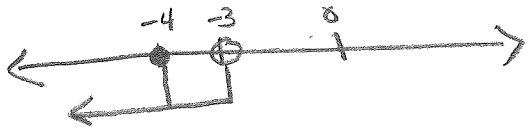
$a \leq -4$ | $4 < a$

(15) $-y+5 \geq 9$ or $3y+4 < -5$

$-5 \quad -5$ | $-4 \quad -4$

$\frac{-y}{-1} \geq \frac{4}{-1}$ | $\frac{3y}{3} < \frac{-9}{3}$

$y \leq -4$ | $y < -3$



(17) $x+x+2 \geq 8$ and $x+x+2 < 24$

$2x+2 \geq 8$ | $2x+2 < 24$

$-2 \quad -2$ | $-2 \quad -2$

$\frac{2x}{2} \geq \frac{6}{2}$ | $\frac{2x}{2} < \frac{12}{2}$

$x \geq 3$ | $x < 6$

3, 5 5, 7 7, 9 9, 11

(18) $x \geq -1$ and $x \leq 4$

or

$-1 \leq x \leq 4$

(19) $x > -3$ and $x \leq 2$

or

$-3 < x \leq 2$

(20) $x < \phi$ or $x \geq 3$

(21) $x < -4$ or $x > -3$

(22) $x \leq 3$ or $x \geq 6$

(23) $x \leq -3$ or $x > 0$

(24) $3b + 2 < 5b - 6 \leq 2b + 9$

$3b + 2 < 5b - 6$ and $5b - 6 \leq 2b + 9$

$-3b \quad -3b$

$2 < 2b - 6$

$+6 \quad +6$

$8 < 2b$

$\frac{8}{2} < \frac{2b}{2}$

$4 < b$

$+6 \quad +6$

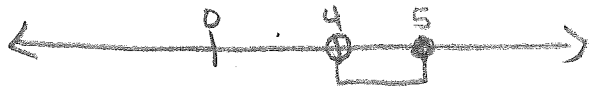
$5b \leq 2b + 15$

$-2b \quad -2b$

$3b \leq 15$

$\frac{3b}{3} \leq \frac{15}{3}$

$b \leq 5$



(25) $-2a + 3 \geq 6a - 1 > 3a - 10$

$-2a + 3 \geq 6a - 1$ and $6a - 1 > 3a - 10$

$+2a \quad +2a$

$3 \geq 8a - 1$

$+1 \quad +1$

$4 \geq 8a$

$\frac{4}{8} \geq \frac{8a}{8}$

$\frac{1}{2} \geq a$

$-3a \quad -3a$

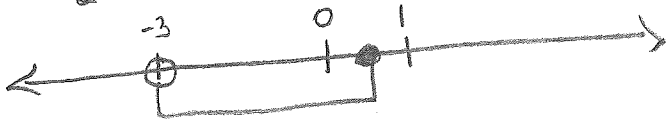
$3a - 1 > -10$

$+1 \quad +1$

$3a > -9$

$\frac{3a}{3} > \frac{-9}{3}$

$a > -3$



(26) $10m - 7 < 17m$ or $-6m > 36$

$-10m \quad -10m$

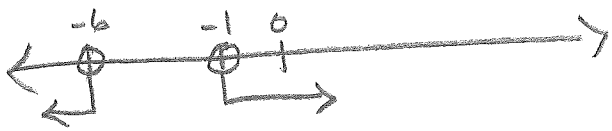
$-7 < 7m$

$\frac{-7}{7} < \frac{7m}{7}$

$-1 < m$

$\frac{-6m}{-6} > \frac{36}{-6}$

$m < -6$



(27) $5n - 1 < -16$ or $-3n - 1 < 8$

$+1 \quad +1$

$5n < -15$

$\frac{5n}{5} < \frac{-15}{5}$

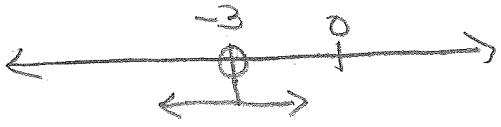
$n < -3$

$+1 \quad +1$

$-3n < 9$

$\frac{-3n}{-3} > \frac{9}{-3}$

$n > -3$



(29) $x - 8 \leq 14$ and $x - 8 \geq 5$

$+8 \quad +8$ $\qquad$ $+8 \quad +8$

$x \leq 22$ $\qquad$ $x \geq 13$

(30) $-8 < 3x + 4 < 10$

$-4 \qquad -4 \qquad -4$

$\frac{-12}{3} < \frac{3x}{3} < \frac{6}{3}$

$-4 < x < 2$

(31) $\frac{-5x}{-5} > \frac{35}{-5}$ or $\frac{-5x}{-5} < \frac{10}{-5}$

$x < -7$ $\qquad$ $x > -2$

(32) $\left(\frac{2}{1}\right)\frac{1}{2}x > 0^{\left(\frac{2}{1}\right)}$ and $^{\left(\frac{2}{1}\right)}\frac{1}{2}x \leq 1^{\left(\frac{2}{1}\right)}$

$x > 0$ $\qquad$ $x \leq 2$

(33) $x < 75$ or $x > 90$