

3.1

1)  $n > -5$

$(-5, \infty)$

3)  $-2 \geq k$

$(-\infty, -2]$

5)  $5 \geq x$

$(-\infty, 5]$

7)  $x < -2$

9)  $x \geq 5$

11)  $x > -2$

13)  $(11)\frac{x}{11} \geq 10(11)$

$$x \geq 110$$

$[110, \infty)$

15)  $2 + r < 3$

$$\frac{-2 - 2}{r < 1}$$

$(-\infty, 1)$

17)  $8 + \frac{n}{3} \geq 6$

$$\begin{array}{r} -8 -8 \\ \hline (3)\frac{n}{3} \geq -2(3) \end{array}$$

$$n \geq -6$$

$[-6, \infty)$

19)  $(5)2 > \frac{a-2}{5} (5)$

$$\begin{array}{r} 10 > a - 2 \\ +2 +2 \\ \hline 12 > a \end{array}$$

$(-\infty, 12)$

21)  $-47 \geq 8 - 5x$

$$\begin{array}{r} -8 -8 \\ \hline -\frac{55}{-5} \geq -\frac{5x}{-5} \\ 11 \leq x \end{array}$$

$[11, \infty)$

23)  $-2(3 + k) < -44$

$$\begin{array}{r} -6 -2k < -44 \\ +6 +6 \\ \hline -\frac{2k}{-2} < -\frac{38}{-2} \\ k > 19 \end{array}$$

$(19, \infty)$

25)  $18 < -2(-8 + p)$

$$\begin{array}{r} 18 < 16 - 2p \\ \hline -16 -16 \\ \hline -2 < -2p \\ -1 > p \end{array}$$

$(-\infty, -1)$

27)  $24 \geq -6(m - 6)$

$$\begin{array}{r} 24 \geq -6m + 36 \\ \hline -36 -36 \\ \hline -\frac{12}{-6} \geq -\frac{6m}{-6} \\ 2 \leq m \end{array}$$

$[2, \infty)$

29)  $-r - 5(r - 6) < -18$

$$\begin{array}{r} -r - 5r + 30 < -18 \\ -6r + 30 < -18 \\ \hline -30 -30 \\ \hline -\frac{6r}{-6} < -\frac{48}{-6} \\ r > 8 \end{array}$$

$(8, \infty)$

31)  $24 + 4b < 4(1 + 6b)$

$$\begin{array}{r} 24 + 4b < 4 + 24b \\ \hline -4b -4b \\ \hline 24 < 4 + 20b \\ \hline -4 -4 \\ \hline \frac{20}{20} < \frac{20b}{20} \\ 1 < b \end{array}$$

$(1, \infty)$

$$33) -5v - 5 < -5(4v + 1)$$

$$-5v - 5 < -20v - 5$$

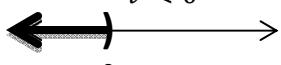
$$\begin{array}{r} +20v \quad +20v \\ \hline \end{array}$$

$$15v - 5 < -5$$

$$\begin{array}{r} +5 \quad +5 \\ \hline \end{array}$$

$$15v < 0$$

$$v < 0$$



$$0$$

$$(-\infty, 0)$$

$$35) 4 + 2(a + 5) < -2(-a - 4)$$

$$4 + 2a + 10 < 2a + 8$$

$$14 + 2a < 2a + 8$$

$$\begin{array}{r} -2a \quad -2a \\ \hline \end{array}$$

$$14 < 8$$

false

No solution  $\emptyset$

$$37) -(k - 2) > -k - 20$$

$$-k + 2 > -k - 20$$

$$\begin{array}{r} +k \quad +k \\ \hline \end{array}$$

$$2 > -20$$

true

All real numbers  $\mathbb{R}$