

## Equations and Inequalities

**Solve each equation.**

1)  $-9 + b = 6$

2)  $10m = 120$

3)  $\frac{35}{8} + r = \frac{35}{8}$

4)  $-\frac{103}{21} = n - \frac{13}{3}$

5)  $-10.8 = n - 6.2$

6)  $x + 1.6 = -0.5$

7)  $0 = \frac{7 + n}{6}$

8)  $-2 = \frac{7 + v}{3}$

9)  $\frac{7}{3}\left(x - \frac{7}{2}\right) = -\frac{133}{18}$

10)  $-\frac{7}{2} + \frac{2}{3}x = -\frac{89}{30}$

11)  $0.06 + 2.5m = 2.31$

12)  $-1.115 = -1 + \frac{p}{2.2}$

13)  $-(5m + 8) - 5(m - 3) = -63$

14)  $74 = 2(1 + 3x) + 3(7x - 3)$

15)  $\frac{5}{2}n - 2 - \frac{8}{3}n = -\frac{25}{12}$

16)  $-\frac{8}{3} = -\frac{3}{2}v - \frac{5}{2} + \frac{4}{3}$

17)  $-\frac{479}{12} = \frac{3}{2}x - \frac{7}{2}\left(-\frac{10}{3}x + 2\right)$

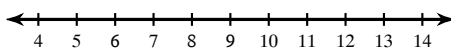
18)  $-\frac{10}{3}\left(\frac{8}{3}a + \frac{1}{2}\right) - 2a = \frac{328}{9}$

19) Kristin drove to the train station and back. The trip there took four hours and the trip back took five hours. She averaged 44 mph on the return trip. Find the average speed of the trip there.

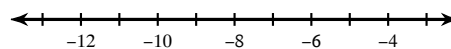
20) Jaidee left the hospital at the same time as Arjun. They traveled in opposite directions. Arjun traveled at a speed of 60 mph. After two hours they were 218 mi. apart. How fast did Jaidee travel?

**Solve each inequality and graph its solution.**

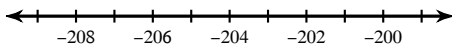
21)  $-2 > x - 9$



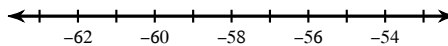
22)  $n + 15 < 5$



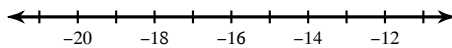
$$23) -12 < \frac{x}{17}$$



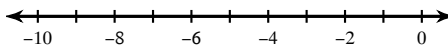
$$24) -10 > \frac{v}{6}$$



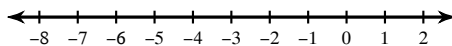
$$25) 2 > n + 16$$



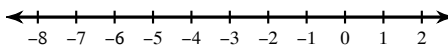
$$26) x - (-18) \geq 12$$



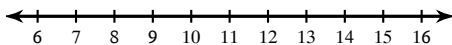
$$27) -147 \geq -3(1 - 8n)$$



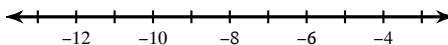
$$28) 192 \geq -8(1 + 5n)$$



$$29) 3(4m - 5) \geq 81$$

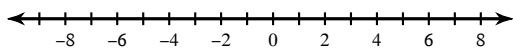


$$30) 6(r - 8) > -96$$

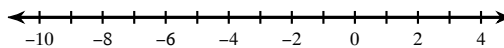


**Solve each compound inequality and graph its solution.**

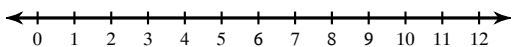
$$31) -10 + k > -7 \text{ or } 10 + k \leq 4$$



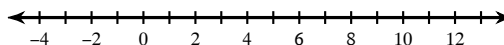
$$32) \frac{r}{6} \geq 0 \text{ or } r + 6 < -1$$



$$33) 18 \leq 9n < 72$$

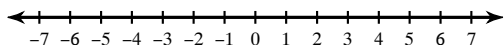


$$34) 10a > 100 \text{ or } \frac{a}{7} < 0$$

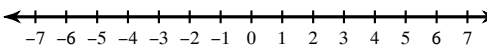


**Draw a graph for each inequality.**

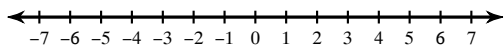
$$35) x < -4$$



$$36) n \geq -5$$



$$37) x < -2$$



$$38) r > 4$$

