

6.4 Practice - Solving Linear Inequalities

Solve each inequality.

1) $x - 6 \leq -2$

2) $15 < \frac{x}{4}$

3) $13 > 8 + n$

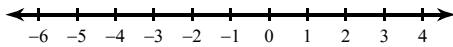
4) $-9 > -16 + b$

5) $-2x \geq 28$

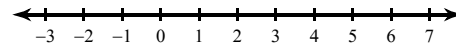
6) $6r \geq -18$

Solve each inequality and graph its solution.

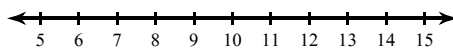
7) $3 + 2x \geq 3$



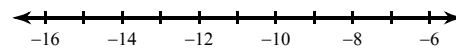
8) $2 \geq -6 + 4x$



9) $-5(p - 5) > -30$



10) $6(p + 10) \leq 0$



Solve each inequality.

11) $x - 11 > -2x + 1$

12) $-6 + n < 4 - n$

13) $-9 + 2m < 6m + 3$

14) $-6x - 3 \geq x + 4$

15) $2 - 2b \leq -4 - 4b$

16) $6x - 4x \leq 12 - x$

17) $-16 + 4n > 4(2 + 4n)$

18) $3r + 16 \geq 4(r + 3)$

$$19) -2(3 + 4n) - 3 < 11 + 2n$$

$$20) 2(2 - 2v) > -10 + 3v$$

$$21) \frac{5}{3}v - \frac{3}{4} < -\frac{1}{12} + v$$

$$22) \frac{1}{4}a - \frac{1}{2} < -1 + \frac{1}{2}a$$

23) Jake plans to board his dog while he is away on vacation. Boarding house A charges \$90 plus \$5 per day. Boarding house B charges \$100 plus \$4 per day. For how many days must Jake board his dog for A to be less expensive than B?

24) The Student Council decides to raise money by organizing a dance. Tickets are \$7.50 each, but the cost of hiring the video-DJ is \$1200. How many tickets must be sold to make a profit of more than \$1500?

Answers to 6.4 Practice - Solving Linear Inequalities

1) $x \leq 4$

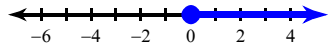
2) $x > 60$

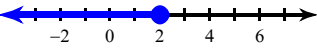
3) $n < 5$

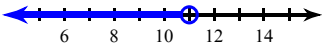
4) $b < 7$

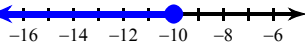
5) $x \leq -14$

6) $r \geq -3$

7) $x \geq 0$:  A number line with arrows at both ends. Tick marks are labeled at -6, -4, -2, 0, 2, and 4. A solid blue dot is placed at 0, and a blue arrow points to the right from this dot.

8) $x \leq 2$:  A number line with arrows at both ends. Tick marks are labeled at -2, 0, 2, 4, and 6. A solid blue dot is placed at 2, and a blue arrow points to the left from this dot.

9) $p < 11$:  A number line with arrows at both ends. Tick marks are labeled at 6, 8, 10, 12, and 14. An open blue circle is placed at 11, and a blue arrow points to the left from this circle.

10) $p \leq -10$:  A number line with arrows at both ends. Tick marks are labeled at -16, -14, -12, -10, -8, and -6. A solid blue dot is placed at -10, and a blue arrow points to the left from this dot.

11) $x > 4$

12) $n < 5$

13) $m > -3$

14) $x \leq -1$

15) $b \leq -3$

16) $x \leq 4$

17) $n < -2$

18) $r \leq 4$

19) $n > -2$

20) $v < 2$

21) $v < 1$

22) $a > 2$

23) $d < 10$ (if less than 10 days, A will be cheaper)

24) $t > 360$ (more than 360 tickets must be sold)