

7.1 Inequalities Practice Problems

1. Solve each of the inequalities below. Be sure to write your answer in interval notation.

(a) $7x - 3 < 10x + 2$

(b) $x^2 + 7x \geq -10$

(c) $(x + 2)(x - 3)^2 > 0$

(d) $|x + 5| > 2$

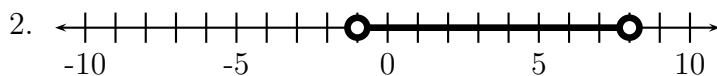
(e) $\frac{2}{x + 3} \leq \frac{1}{x - 1}$

(f) $|4 - x| \leq 6$

(g) $|5x + 7| + 4 > 10$

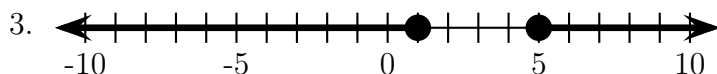
(h) $x^3 - 9x \geq 0$

(i) $\frac{1}{x - 2} \geq -1$



(a) Write a distance sentence that corresponds to this number line.

(b) Write an algebraic equation or inequality that corresponds to this number line.



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4. (Number 60 in Section 4.6 in your textbook) The length of a rectangle is 6 inches longer than its width. What are the possible widths if the area of the rectangle is at least 667 square inches?

5. (Number 55 in Section 4.6 in your textbook) A sales agent is given a choice of two different compensation plans. The first plan has no salary, but a 10% commission on total sales. The second plan has a salary of \$3000 per month, plus a 2% commission on total sales. What range of monthly sales will make the first plan a better choice for the sales agent?