

Math 1513 - College Algebra

Discussion Board Week 2 - Due 2019.09.08

Solve the following inequalities. Express your answer in interval notation and also sketch it on the number line.

1. $2 \leq \left| \frac{1}{2}x - 2 \right| < 3$

2. $2 \leq \left| -\frac{1}{2}x - 3 \right| < 6$

3. $0 \leq \left| -\frac{3}{2}x + 6 \right| < 1$

4. $10 > \left| \frac{1}{7}x - 7 \right| \geq 1$

5. $8 > \left| -\frac{5}{7}x + 2 \right| \geq 7$

6. $1 > |3x - 7| \geq \frac{1}{2}$

7. $1 > \left| -3x - \frac{7}{2} \right| \geq \frac{1}{2}$

8. $10 \leq \left| -3x - \frac{7}{2} \right| \leq 21$

9. $12 \leq \left| 5x - \frac{7}{12} \right| < 13$

10. $2 < \left| 5x + \frac{7}{12} \right| < 3$

11. $1 < |3x - 2| \leq 2$

12. $3 \leq |5x + 6| < 10$

13. $1 < \left| \frac{x}{3} - 1 \right| \leq 3$

14. $2 < \left| \frac{1}{2} - x \right| \leq 4$

15. $2 < \left| \frac{x}{3} + 1 \right| < 5$

16. $2 < \left| 1 - \frac{x}{3} \right| \leq 3$

17. $8 > \left| \frac{3}{7} - x \right| > 5$

18. $2 \leq |14x + 12| \leq 30$

19. $1 < |13x + 7| \leq 3$

20. $8 > \left| \frac{5}{7}x + 12 \right| \geq 3$

21. $8 \geq \left| \frac{3}{7}x - 1 \right| \geq 1$

22. $12 < \left| -5x + \frac{7}{12} \right| \leq 13$

23. $1 \leq |-3x - 24| \leq 6$

24. $1 \leq \left| -\frac{3}{5}x - 24 \right| \leq 9$

25. $2 \leq \left| -\frac{3}{2}x + 6 \right| < 4$

26. $3 \leq \left| \frac{4}{3}x - 2 \right| < 5$