1. Write an inequality for the graph below

2. Graph the compound inequality on a number line:
   \( x < 8 \) and \( x \geq 2 \)
3. Graph the compound inequality on a number line:
   \( x < 5 \) or \( x > 8 \)
4. Write a compound inequality for the graph below

5. Write a compound inequality for the graph below

6. Write the inequality \( x > 2 \) in interval notation.
7. Write the inequality \(-6 \leq x < 3\) in interval notation.
8. The sets \( I \) and \( A \) are given below. Find the intersection of \( I \) and \( A \).
   \[ I = \{1, 3, 8\}; \ A = \{1, 6, 7\} \]
9. The sets \( I \) and \( A \) are given below. Find the union of \( I \) and \( A \).
   \[ I = \{-1, 4, 5, 6, 8\}; \ A = \{4, 7, 8\} \]
10. The sets \( C \) and \( D \) are given below. Write \( C \cap D \) in interval notation.
   \[ C = \{w|w < 2\}; \ D = \{w|w \leq 9\} \]
11. The sets \( C \) and \( D \) are given below. Write \( C \cup D \) in interval notation.
   \[ C = \{w|w > 1\}; \ D = \{w|w \geq 5\} \]
12. Solve the inequality for \( x \).
   \[-6 \leq \frac{x}{-5} \]
13. Solve the inequality for \( x \).
   \[4x > -20 \]
14. Solve the inequality for \( x \).
   \[-\frac{4x}{7} < -8 \]
15. Solve the inequality for $x$. 
   \[-2 < \frac{x}{2} + 2\]

16. Solve the inequality for $x$. 
   \[2x - 5 \geq -13\]

17. Solve the inequality for $x$. 
   \[-3x + 31 > 16\]

18. Solve the inequality for $x$. 
   \[-32 + 4x \leq -12\]

19. Solve the inequality for $x$. 
   \[12 < -\frac{6x}{7} + 17\]

20. Solve the inequality for $x$. 
   \[5 - 8x \leq 11 - 6x\]

21. Solve the inequality for $x$. 
   \[4x + 2 > 30 - 3x\]

22. Solve the inequality for $x$. 
   \[9x - 34 \geq -2(3 - 8x)\]

23. Solve the inequality for $x$. 
   \[-7x + 4(x - 2) < -35\]

24. Solve the inequality for $x$. 
   \[2 - \frac{8}{9}x < x + \frac{7}{6}\]

25. Solve the inequality for $x$. 
   \[\frac{9}{5}x - 2 \leq \frac{7}{5}x - \frac{3}{4}\]

26. Solve the compound inequality and graph the solution on a number line 
   \[2x - 3 < -3 \text{ or } 4x + 6 > 22\]

27. Solve the compound inequality and graph the solution on a number line 
   \[-8 < 2x + 4 < 0\]

28. Solve the compound inequality and write the solution in interval notation 
   \[3x + 1 \leq 19 \text{ or } 2x - 4 < -14\]

29. Solve the compound inequality and write the solution in interval notation 
   \[3x - 4 \leq -16 \text{ and } 4x + 6 < 30\]
30. Solve for $x$. If there is no solution, write “No Solution”:
   $|x| = 2$

31. Solve for $x$. If there is no solution, write “No Solution”:
   $|x| = -8$

32. Solve for $x$. If there is no solution, write “No Solution”:
   $|x| + 10 = 20$

33. Solve for $x$. If there is no solution, write “No Solution”:
   $5|x| = 35$

34. Solve for $x$. If there is no solution, write “No Solution”:
   $|4x - 12| = -16$

35. Solve for $x$. If there is no solution, write “No Solution”:
   $|3x + 9| = 3$

36. Solve for $x$. If there is no solution, write “No Solution”:
   $-5|3x| = -30$

37. Solve for $x$. If there is no solution, write “No Solution”:
   $|x + 8| - 29 = -10$

38. Solve for $x$. If there is no solution, write “No Solution”:
   $4|3x - 3| = 0$

39. Solve for $x$. If there is no solution, write “No Solution”:
   $5|x - 7| + 6 = 56$

40. Graph the solution to the inequality on a number line.
   $|x| > 6$

41. Graph the solution to the inequality on a number line.
   $|x| \leq 2$

42. Write an absolute value inequality for the graph

43. Write an absolute value inequality for the graph
44. Solve for \( x \). If there is no solution, write “No Solution.” If all real numbers are solutions, write “All Real Numbers.”
\[ |x| + 11 > 23 \]

45. Solve for \( x \). If there is no solution, write “No Solution.” If all real numbers are solutions, write “All Real Numbers.”
\[ |x| + 17 < 7 \]

46. Solve for \( x \). If there is no solution, write “No Solution.” If all real numbers are solutions, write “All Real Numbers.”
\[ |x + 2| \leq 2 \]

47. Solve for \( x \). If there is no solution, write “No Solution.” If all real numbers are solutions, write “All Real Numbers.”
\[ |x + 3| > 6 \]

48. Solve for \( x \). If there is no solution, write “No Solution.” If all real numbers are solutions, write “All Real Numbers.”
\[ |6x - 18| < 12 \]

49. Solve for \( x \). If there is no solution, write “No Solution.” If all real numbers are solutions, write “All Real Numbers.”
\[ |3x - 9| \geq 3 \]

50. Solve for \( x \). If there is no solution, write “No Solution.” If all real numbers are solutions, write “All Real Numbers.”
\[ 5|x + 6| - 9 > 36 \]

51. Solve for \( x \). If there is no solution, write “No Solution.” If all real numbers are solutions, write “All Real Numbers.”
\[ 4|x + 3| - 9 > -37 \]