Solve for x and write answer in term of set builder form?

28. $|3x + 1| < 4$ 29. $|x + 2| > 1$ 30. $\left|\frac{1}{2}x - 1\right| \geq 2$

31. $|5 - 2x| \geq 4$ 32. $|7x + 1| > 3$ 33. $\frac{1}{|x - 1|} < 2$

34. $\frac{1}{|3x + 1|} \geq 5$ 35. $\frac{3}{|2x - 1|} \geq 4$

36. $\frac{2}{|x + 3|} < 1$

Solve for 'x' and write answer in term of interval?

29. $\frac{x}{x - 3} < 4$ 30. $\frac{x}{8 - x} \geq -2$ 31. $\frac{3x + 1}{x - 2} < 1$

32. $\frac{\frac{1}{2}x - 3}{4 + x} > 1$ 33. $\frac{4}{2 - x} \leq 1$ 34. $\frac{3}{x - 5} \leq 2$

35. $x^2 > 9$ 36. $x^2 \leq 5$

37. $(x - 4)(x + 2) > 0$ 38. $(x - 3)(x + 4) < 0$

39. $x^2 - 9x + 20 \leq 0$ 40. $2 - 3x + x^2 \geq 0$

In Exercises 19–32, find the domain of the function.

19. $f(x) = x^2 + 3$ 20. $f(x) = 7 - x^2$

21. $f(x) = \frac{3x + 1}{x^2}$ 22. $g(x) = \frac{2x + 1}{x - 1}$

23. $f(x) = \sqrt{x^2 + 1}$ 24. $f(x) = \sqrt{x - 5}$

25. $f(x) = \sqrt{5 - x}$ 26. $g(x) = \sqrt{2x^2 + 3}$

27. $f(x) = \frac{x}{x^2 - 1}$ 28. $f(x) = \frac{1}{x^2 + x - 2}$

29. $f(x) = (x + 3)^{3/2}$ 30. $g(x) = 2(x - 1)^{5/2}$

31. $f(x) = \frac{\sqrt{1 - x}}{x^2 - 4}$ 32. $f(x) = \frac{\sqrt{x - 1}}{(x + 2)(x - 3)}$