

Use a separate sheet of graph paper to first sketch these without your calculator.

1) $y = |x - 1|$ vertex: (,)

2) $y = |x + 3| + 2$ vertex: (,)

3) $y = |x - 4| - 1$ vertex: (,)

4) $y = -|x| + 4$ vertex: (,)

5) $y = 2|x - 3|$ vertex: (,)

6) $y = -\frac{1}{3}|x| + 1$ vertex: (,)

Solve the following absolute value equations graphically.

7) $|x + 2| = 10$

8) $2|x - 5| + 4 = 4$

Solve the following absolute value equations algebraically.

9) $|-x + 7| = 19$

10) $\frac{1}{3}|2x + 3| = 3$

11) $-|3x - 6| = -12$

12) $-2|4x - 2| = -20$

14) $|2.5x + 4.1| = 8.1$

15) $|2x| - 5 = -15$

16) $-5|3x| - 5 = 25$

17) $8|3x - 10| - 12 = 20$

Solve the following absolute value inequalities. Graph your solutions.

18) $|4x-3| \leq 5$

19) $-8|x+4| > 48$

20) $|12x-6| \geq 21$

21) $6|2x+5|-7 > 59$

23) $3|x-1| \leq 6$

24) $\frac{2}{3}|4x-8| > 8$

25) $3|2x-3|+6 < 21$

26) $-2|x-5| \geq 10$