

ACTIVITY 4 PRACTICE

Write your answers on notebook paper.

Show your work.

Lesson 4-1

For Items 5–17, solve each absolute value equation.

Check your answers.

5. $|x| = 7$
6. $|x - 2| = -2$
7. $|x - (-2)| = 5$
8. $|3(x - 1)| = 15$
9. $\left|\frac{2}{5}x\right| = 4$
10. $|2(x - 3)| = 10$
11. $|3(x - 2)| = x$
12. $|4(x + 2)| + 9 = 15$

13. $|-2x + 3| = 7$
14. $|-3(x - 7)| = 21$
15. $-5|x - 2| = -20$
16. $-3|x + 5| + 7 = 4$
17. $\left|\frac{2x - 5}{7}\right| = 3$

Lesson 4-2

For Items 18–21, graph the solutions. Then write an absolute value inequality that represents each question.

18. What numbers are more than 3 units from -1 on a number line?
19. What numbers are less than 3 units from -1 on a number line?
20. What numbers are 5 or fewer units away from 3?
21. What numbers are 3 or more units away from 5?

For Items 22–25, graph the solutions of each absolute value inequality and write compound inequalities for the solutions.

22. $|x| > 3$
23. $|x| < 3$
24. $|x - 4| \geq 7$
25. $|x - 4| \leq 7$
26. Which describes the solutions of $|6x - 3| > 21$?
 - A. all numbers greater than 4
 - B. all numbers greater than -3 and greater than 4
 - C. all numbers between -3 and 4
 - D. all numbers less than -3 and greater than 4
27. Without solving, match each absolute value equation or inequality with its number of solutions. Justify your answers.

$ x - 7 < -2$	one solution
$ x = 0$	no solutions
$ x + 1 > -5$	infinitely many solutions

28. The solutions to which absolute value inequality are shown in the graph below?



- A. $|x + 1| < 1$
- B. $|x + 1| > 1$
- C. $|x - 1| < 1$
- D. $|x - 1| > 1$

- 35. $|4(x - 1)| > 16$
- 36. $|x - 7| + 3 < 2$
- 37. $|x + 5| - 2 < 3$
- 38. $|2(x + 1)| - 7 \leq 1$
- 39. $\left| \frac{3x - 1}{4} \right| \geq 5$
- 40. $-2|3x - 4| \leq -6$

For Items 30–40, solve each absolute value inequality and graph the solutions.

- 30. $|x - 2| > 3$
- 31. $|x - 5| < 2$
- 32. $|2x + 7| \geq 5$
- 33. $|3x + 2| \leq 11$
- 34. $\left| \frac{5x - 3}{2} \right| < 6$