

Practice 6-8

Graphing Absolute Value Equations

Graph each equation by translating $y = |x|$.

- | | | |
|----------------------------|-----------------------------|-----------------------|
| 1. $y = x - 3$ | 2. $y = x + 4$ | 3. $y = x - 1$ |
| 4. $y = x + \frac{1}{2}$ | 5. $y = x + 2\frac{1}{2}$ | 6. $y = x + 3$ |
| 7. $y = x + 2 $ | 8. $y = x - 4 $ | 9. $y = 3x $ |
| 10. $y = x + 3 - 2$ | 11. $y = x - 2 + 1$ | 12. $y = x - 3 + 2$ |

Graph each equation by translating $y = -|x|$.

- | | | |
|------------------------|------------------------|------------------------|
| 13. $y = - x + 1$ | 14. $y = - x + 2 $ | 15. $y = - x - 5$ |
| 16. $y = - x - 4 + 2$ | 17. $y = - x - 5 $ | 18. $y = - x + 4.5$ |
| 19. $y = - x - 3 + 1$ | 20. $y = - x + 1 + 3$ | 21. $y = - x + 2 - 4$ |

Write an equation for each translation of $y = |x|$.

- | | | |
|-------------------------------|-------------------------------|----------------------------------|
| 22. left 7 units | 23. right 5 units | 24. up 6 units |
| 25. up 2 units, right 3 units | 26. down 3 units, left 1 unit | 27. down 1 unit, right 2 units |
| 28. left 2 units, up 4 units | 29. right 3 units, up 2 units | 30. left 4 units, down 3.5 units |

Write an equation for each translation of $y = -|x|$.

- | | | |
|-------------------------------|--------------------------------|-------------------------------|
| 31. 3 units up | 32. 3.5 units left | 33. $\frac{3}{4}$ unit down |
| 34. down 3 units | 35. up 2 units, right 1 unit | 36. down 5 units, left 1 unit |
| 37. right 3 units, up 2 units | 38. down 4 units, left 2 units | 39. up 4 units, right 3 units |

Write an equation for the given graphs.

