Name _____ Date _____

3.1 Notetaking with Vocabulary (continued)

Zero-Product Property

Words If the product of two expressions is zero, then one or both of the expressions equal zero.

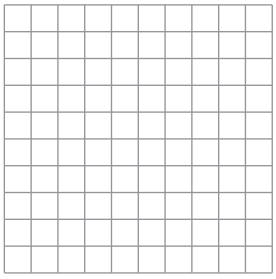
Algebra If A and B are expressions and $AB = 0$, then $A = 0$ or $B = 0$.

Notes:

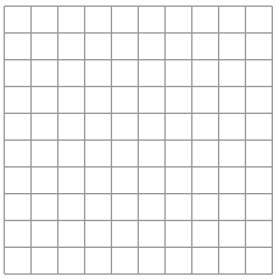
Extra Practice

In Exercises 1–3, solve the equation by graphing.

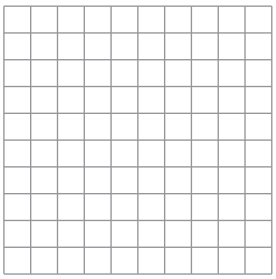
1. $x^2 - 11x + 24 = 0$



2. $13 = -x^2 - 12$



3. $12x^2 = 5x + 2$



In Exercises 4–6, solve the equation using square roots.

4. $t^2 = 400$

5. $(2k + 3)^2 - 19 = 81$

6. $\frac{1}{7}p^2 = \frac{5}{7}p^2 - 20$

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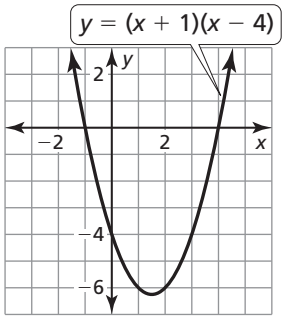
3.1 Notetaking with Vocabulary (continued)

In Exercises 7–9, solve the equation by factoring.

7. $0 = x^2 - 12x + 36$ **8.** $x^2 = 14x - 40$ **9.** $5x^2 + 5x - 1 = -x^2 + 4x$

10. Which equations have roots that are equivalent to the x-intercepts of the graph shown?



A. $-2x^2 - 10x - 8 = 0$

B. $x^2 - 3x = 4$

C. $(x - 1)(x + 4) = 0$

D. $(x - 1)^2 + 4 = 0$

E. $6x^2 = 18x + 24$

11. A skydiver drops out of an airplane that is flying at an altitude of 4624 feet.

a. Use the formula $h = -16t^2 + h_0$ to write an equation that gives the skydiver's height h (in feet) during free fall t seconds after the skydiver drops out of the airplane.

b. It is possible for the skydiver to wait 18 seconds before pulling the parachute cord? Explain.