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.





3.	$12x^{2}$	=	5x	+	2
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In Exercises 4–6, solve the equation using square roots.

5. $(2k+3)^2 - 19 = 81$ **6.** $\frac{1}{7}p^2 = \frac{5}{7}p^2 - 20$ **4.** $t^2 = 400$



Notetaking with Vocabulary (continued) 3.1

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.** $-2x^2 10x 8 = 0$ y = (x + 1)(x - 4)-2 2 **B.** $x^2 - 3x = 4$ **C.** (x-1)(x+4) = 06
 - **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.

