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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 $A B=0$, then $A=0$ or $B=0$.

## Notes:

## Extra Practice

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

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

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

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


In Exercises 4-6, solve the equation using square roots.
4. $t^{2}=400$
5. $(2 k+3)^{2}-19=81$
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. $0=x^{2}-12 x+36$
8. $x^{2}=14 x-40$
9. $5 x^{2}+5 x-1=-x^{2}+4 x$
10. Which equations have roots that are equivalent to the $x$-intercepts of the graph shown?
A. $-2 x^{2}-10 x-8=0$
B. $x^{2}-3 x=4$
C. $(x-1)(x+4)=0$

D. $(x-1)^{2}+4=0$
E. $6 x^{2}=18 x+24$
11. A skydiver drops out of an airplane that is flying at an altitude of 4624 feet.
a. Use the formula $h=-16 t^{2}+h_{0}$ 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.
