**Section 1.3 WS** **Name** _____

**Solve the quadratic equation by factoring.**

1. $x^2 - x - 42 = 0$
2. $x^2 - 4x + 3 = 0$
3. $x^2 + 40 = -13x$
4. $2x^2 + 19x - 10 = 0$

5. $(x+8)(x-2) - 16 = 0$
6. $-4x^2 = 27x - 81$
7. $3x^2 + 6x = 4$
8. $-4x^2 + 6x - 16 = -5x^2$

**Solve the quadratic equation using square roots.**

9. $(x+8)^2 = 25$
10. $(x-3)^2 = 121$
11. $3(x+1)^2 - 4 = 5$
12.. $5 - 3(2x+1)^2 = -22$

**Solve the quadratic equation using the quadratic formula.**

13. $x^2 + 9x + 4 = 0$
14. $-4x^2 = 3x - 1$
15. $-3x^2 + 5x = 4$
16. $6x^2 - 4x = -9$

17. The height *h*, in feet, that a suspension cable that supports a footbridge hangs above the bridge can be approximated by the equation $h = 0.045x^2 - 1.33x + 20$, where *x*, is the distance, in feet, measured from the left side of the bridge. At what distance from the left side of the bridge is the height of the cable 11 feet above the bridge? Round to the nearest tenth of a foot.