**Practice**

***Solving Quadratic Equations by Graphing***

**Solve each equation by graphing.**

 **1.** $x^{2}$ – 5*x* + 6 = 0 **2.** $w^{2}$ + 6*w* + 9 = 0 **3.** $b^{2}$ – 3*b* + 4 = 0

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**Solve each equation by graphing. If integral roots cannot be found, estimate the roots to the nearest tenth.**

 **4.** $p^{2}$ + 4*p* = 3 **5.** 2$m^{2}$ + 5 = 10*m* **6.** 2$v^{2}$ + 8*v* = –7

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** 7. NUMBER THEORY** Two numbers have a sum of 2 and a product of –8. The quadratic equation –$n^{2}$ + 2*n* + 8 = 0 can be used to determine the two numbers.

**a.** Graph the related function *f*(*n*) = –$n^{2}$ + 2*n* + 8 and determine its
*x*-intercepts.

**b.** What are the two numbers?

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 **8. DESIGN** A footbridge is suspended from a parabolic support. The function *h*(*x*) = – $\frac{1}{25}x^{2}$ + 9 represents the height in feet of the support above the walkway, where *x* = 0 represents the midpoint of the bridge.

**a.** Graph the function and determine its *x*-intercepts.

**b.** What is the length of the walkway between the two supports?