

Bell work

Find the x-intercepts:

1. $y = x^2 + 6x + 15$

2. $y = -3x^2 - 6x - 10$

Write the equation for the parabola with the given information.

3. vertex is $(-4, 1)$ and passes through $(-2, 5)$

4. vertex is $(5, 0)$ and passes through $(2, -27)$

5. vertex is $(3, 5)$ and passes through $(7, -3)$

6. vertex is $(-4, -2)$ and passes through $(0, 30)$

7. vertex is $(-1, -3)$ and passes through $(1, -1)$

8. $(-2, 0), (3, 0), (0, 12)$

9. A woodland jumping mouse hops along a parabolic function
 $y = -.2(x - 0)(x - 6.5)$

a) How far does the mouse jump?

b) Could the mouse jump over a 2 foot fence? Explain

10. An osprey, a fish eating bird of prey, dives towards the water to a salmon. The height, h , in meters, of the osprey above water, t seconds after it begins to dive can be approximated by the function:
 $h(t) = 5t^2 - 30t + 45$. Determine the time it takes the osprey to reach a height of 20 meters.