1. The length of a rectangular patio is 7 feet more than its width, w. The area of a patio, $A(w)$, can be represented by the function
   1. $A(w) = w + 7$
   2. $A(w) = w^2 + 7w$
   3. $A(w) = 4w + 14$
   4. $A(w) = 4w^2 + 28w$

2. A ball is thrown into the air from the top of a building. The height, $h(t)$, of the ball above the ground t seconds after it is thrown can be modeled by $h(t) = -16t^2 + 64t + 80$. How many seconds after being thrown will the ball hit the ground?
   1. 5   2. 2
   3. 80   4. 144

3. The expression $-5t^2 + 20t + 5$ represents the height, in meters, of a baseball t seconds after it was hit into the field. The initial height of the baseball is
   1. 1 meter   2. 2 meters
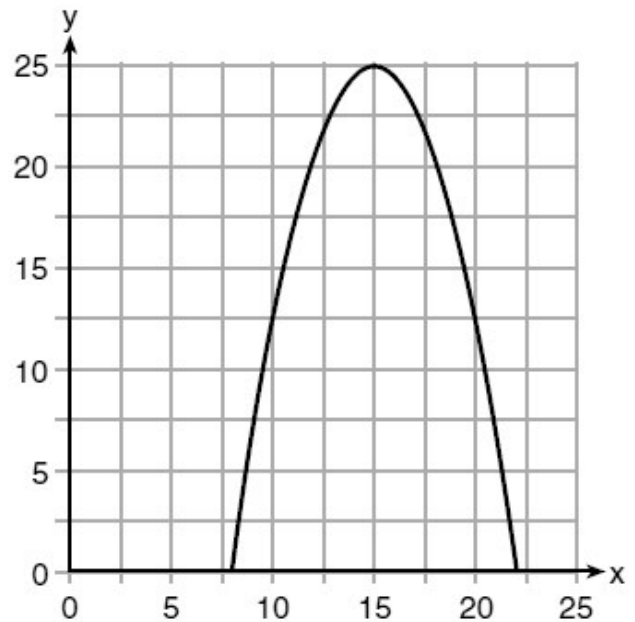   3. 5 meters   4. 20 meters

4. The graph of a quadratic function is shown below.
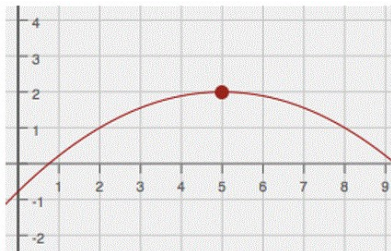
An equation that represents the function could be
   1. $f(x) = -\dfrac{1}{9}(x + 5)^2 - 2$
   2. $f(x) = \dfrac{1}{9}(x + 5)^2 - 2$
   3. $f(x) = -\dfrac{1}{9}(x - 5)^2 + 2$
   4. $f(x) = \dfrac{1}{9}(x - 5)^2 + 2$

5. The graph of a quadratic function is shown below.

An equation that represents the function could be
   1. $q(x) = \dfrac{1}{2}(x + 15)^2 - 25$
   2. $q(x) = -\dfrac{1}{2}(x + 15)^2 - 25$
   3. $q(x) = \dfrac{1}{2}(x - 15)^2 + 25$
   4. $q(x) = -\dfrac{1}{2}(x - 15)^2 + 25$

6. Frank and Sam have ages that are consecutive odd integers. The product of their ages is 899. Which equation could be used to find Frank's age, f, if he is the younger one?
   1. $f + 2 = 899$
   2. $f^2 - 2 = 899$
   3. $f^2 - 2f = 899$
   4. $f^2 + 2f = 899$