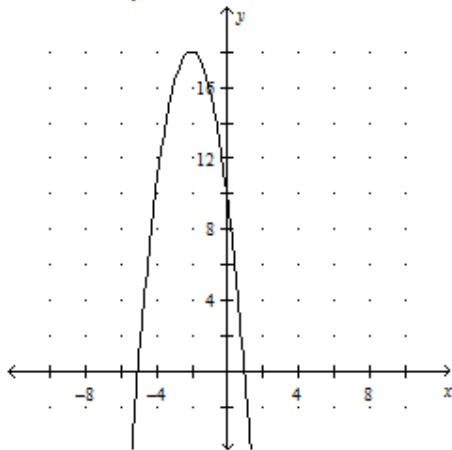


Review

October-08-13
9:16 AM

used 2009-3

- ① Examine the parabola graph.
- State the direction of opening and step pattern
 - Name the coordinates of the vertex
 - List the values of x-intercepts
 - Determine the algebraic models (ie. equations) for this quadratic in factored form, standard form and vertex form



- ② Find the maximum or minimum value of $y = 4x^2 - 16x$ in two different ways

b) For what value of y will there be only one solution to this equation?

- ③ Simplify, rationalize denominators when needed.

- $\sqrt{100 - 36}$
- $\sqrt{45}$
- $\frac{3\sqrt{5} \times 8\sqrt{7}}{16\sqrt{10}}$
- $9\sqrt{8} - 5\sqrt{40} + 4\sqrt{18} - \sqrt{160}$
- $(\sqrt{6} - 3\sqrt{7})^2$
- $\frac{\sqrt{2}}{\sqrt{8} - \sqrt{2}}$

- ④ Given the quadratic $y = -\left(\frac{1}{2}x - 5\right)^2 + 9$
- rewrite the equation so that x has coefficient one
 - describe all the transformations
 - sketch
- ④ Find the inverse function

- ⑤ A punter kicks a football. Its height, $h(t)$, in meters, t seconds after the kick is given by the equation $h = -4.9t^2 + 18.24t + 0.8$. The height of an approaching blocker's hands is modelled by the equation $h = -1.43t + 4.26$, using the same t . Can the blocker knock down the punt? If so, at what point will it happen?

- ⑥ Determine the equation of the quadratic in standard form if the parabola has zeros at $2 + 4\sqrt{6}$ and $2 - 4\sqrt{6}$ and goes through the point $(1, -5)$

- ⑦ A bus company has 4000 passengers daily, each paying a fare of \$2. For each \$0.15 increase, the company estimates that it will lose 40 passengers per day. If the company needs to take in \$10450 per day to stay in business, what fare should be charged?