Lesson 8.1 Page 320: 14, 15, 16, 22, 24, 25, 26, 30



1.$Graph f\left(x\right)=x^{2}$

Vertex: \_\_\_\_\_\_\_\_\_Max or Min?\_\_\_\_\_\_\_\_\_

Axis Of Symmetry: \_\_\_\_\_\_\_\_\_

Domain:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Zeros:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Number of solutions: \_\_\_\_\_\_\_

1. $Graph y=x^{2}+2x+5$

Vertex: \_\_\_\_\_\_\_\_\_Max or Min?\_\_\_\_\_\_\_

Axis Of Symmetry: \_\_\_\_\_\_\_\_\_

Domain:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Zeros:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Number of Solutions: \_\_\_\_\_\_



1. $Graph h(t)=-2t^{2}+8t$

Vertex: \_\_\_\_\_\_\_\_\_Max or Min?\_\_\_\_\_\_\_

Axis Of Symmetry: \_\_\_\_\_\_\_\_\_

Domain:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Zeros:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Number of Solutions: \_\_\_\_\_\_\_

1. An apple is launched directly upward at 64 feet per second from a platform 80 feet high. The equation for this apple’s height $h$ at time $t$ seconds after launch is $h\left(t\right)=-16t^{2}+64t+80$.
2. What is the maximum height of the apple?
3. How many seconds will it take the apple to reach the ground?
4. State the time interval, in seconds, during which the height of the object *decreases*.
5. If$f\left(x\right)=\frac{1}{4}x^{2}-( \frac{1}{2}x+3)$, what is the value of $f(12)$?
6. A toy rocket is launched from the ground straight upward. The height of the rocket above the ground, in feet, is given by the equation, where *t* is the time in seconds. Determine the domain for this function in the given context. Explain your reasoning.
7. A skydiver, James, jumps out of a plane. The distance, d(t), in meters, James travels after t seconds falling to the ground can be modeled by the function d(t) =.5t2. What is the average speed, in meters per second, of the skydiver, James, between 2 and 5 seconds after jumping out of the plane?
8. Determine the smallest integer that makes -3*x* + 7 - 5*x* < 15 true.