Name : _____

Score : _____ Date : _____

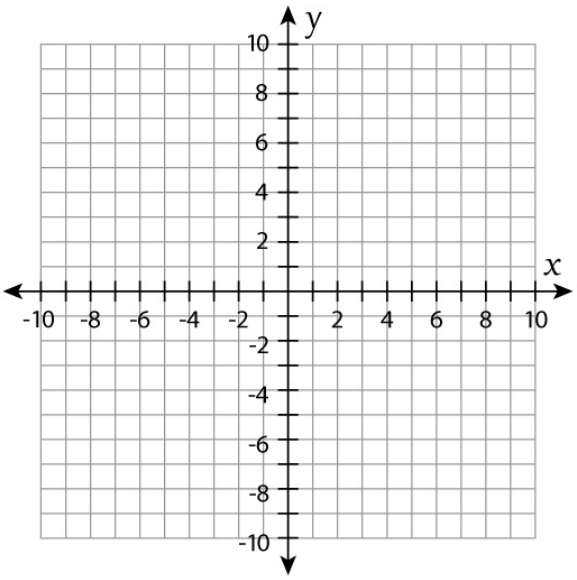
MATH MONKS

Graphing Quadratic Functions Word Problems

(1) Graph the function $f(x) = x^2 + 4x + 10$. Then, find the axis of symmetry, vertex, and the zeros of the function.

a) Complete the following table of values and graph

x	-4	-3	-2	-1	0
$f(x)$					



b) Find the axis of symmetry, vertex, and the zeros of the function.

Axis of Symmetry: _____

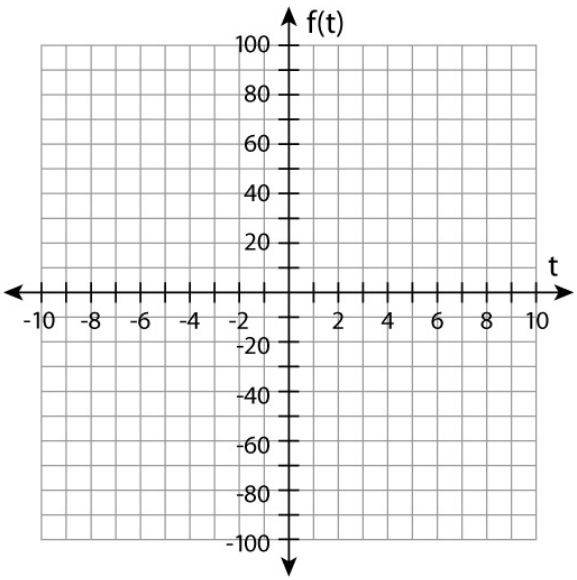
Vertex: _____

Zeros: _____

(2) The height of a model rocket fired into the air is represented by the function $f(t) = -16t^2 + 64t$, where t is the time in seconds.

a) Complete the following table of values and graph.

t	0	2	4
f(t)			



b) Find the maximum height in feet that the rocket can attain.

_____

c) Find how long will it stay in the air

_____

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MATH MONKS

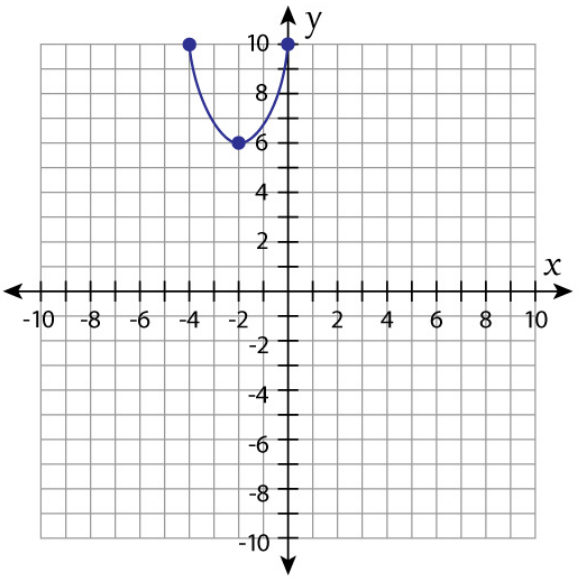
Graphing Quadratic Functions Word Problems

Answers

(1) Graph the function $f(x) = x^2 + 4x + 10$. Then, find the axis of symmetry, vertex, and the zeros of the function.

a) Complete the following table of values and graph

x	-4	-3	-2	-1	0
$f(x)$	10	7	6	7	10



b) Find the axis of symmetry, vertex, and the zeros of the function.

Axis of Symmetry: $x = -2$

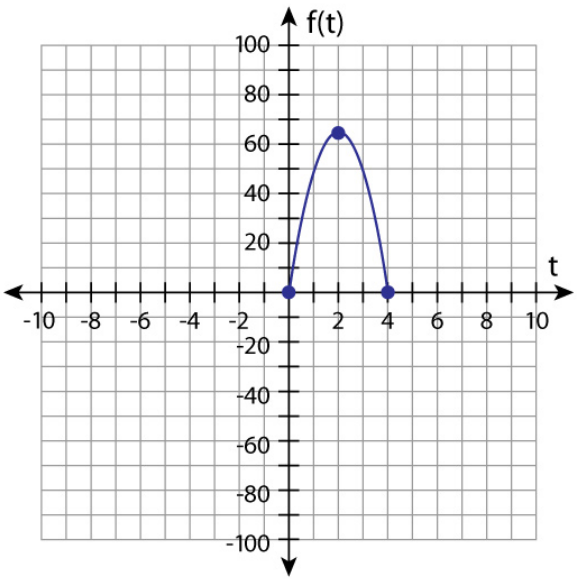
Vertex: (-2, 6)

Zeros: No real zeros

(2) The height of a model rocket fired into the air is represented by the function $f(t) = -16t^2 + 64t$, where t is the time in seconds.

a) Complete the following table of values and graph.

t	0	2	4
f(t)	0	64	0



b) Find the maximum height in feet that the rocket can attain.

64 feet

c) Find how long will it stay in the air

4 seconds