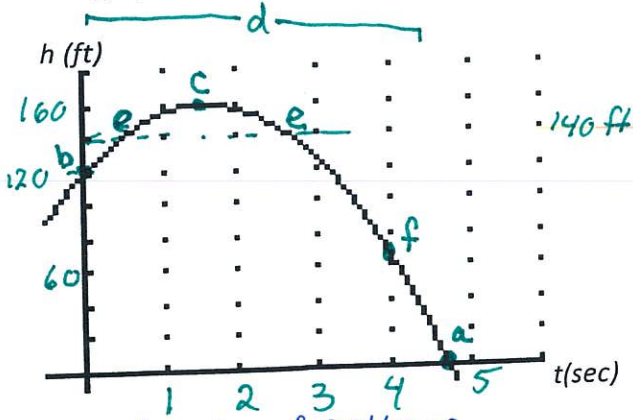


SOLUTIONS

We need to learn to read a graph!

The graph of a rocket shot straight up from the edge of a tall building.

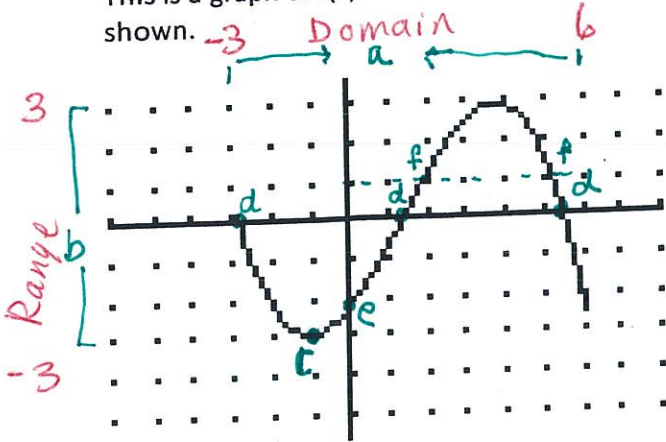


This graph $h(t)$ is the graph of the height of an object in feet at time t . The object has been thrown up in the air from a tall building. The t -axis is in seconds (1 sec per tic) and the h -axis is the distance the object is from the ground in feet. (20 ft per tic)

Questions one might ask. For each question mark the letter on the graph and answer the question.

- How long does it take to hit the ground? $\approx 4.8 \text{ sec}$
x-intercept $h=0$ $t=?$ at $t=0$
- How tall is the building? 120 ft at $t=0$
y-intercept
- How high does it go? $\approx 160 \text{ ft}$
highest pt.
- What is the domain of this problem? $[0, 4.8]$
ends when it hits ground
- When is the object 140 feet off the ground? at $\frac{1}{2} \text{ sec}$ & $2\frac{1}{2} \text{ sec}$
happens twice
- Where is the object at 4 seconds?
 $t=4$ $h=?$ 60 ft up.

This is a graph of $f(x)$. It ends at the endpoints shown.



Mark each letter on the appropriate part of the graph and answer the questions. Answers are approximate. Use units.

- Domain [low x-value, high x-value] $[-3, 6]$
- Range [low y-value, high y-value] $[-3, 3]$
- $f(-1) = -3$ When $x=-1$, $y=-3$
- x-intercepts (ordered pairs) $(-3, 0)$ $(1.4, 0)$ $(5.2, 0)$
There are 3 of them.
- y-intercept (ordered pair) $(0, -2)$
There is only 1
- when $f(x) = 1$, what is the value of x ?
 $y=1$ at 2 and at 5.1

Must be in order -
[small, large]

Domain and range must be as ordered on the number line - $[-3, 6]$ Never $[6, -3]$