

1. Plot the given points. $(2, 4)$, $(-1, 3)$, $(12, -3)$, $(-7, 6)$, $(0, -8)$, $(0, 0)$, $(5, 0)$, $(-3, 0)$, $(0, 9)$

2. Complete the given table and use it to sketch a graph of the function.

(a) $y = 4x - 5$

x	-3	-2	-1	0	1	2	3	4
y								

(b) $y = 2x^2 - 3$

x	-3	-2	-1	0	1	2	3	4
y								

(c) $y = \frac{1}{x}$

x	-3	-2	-1	$-\frac{1}{4}$	$-\frac{1}{2}$	0	$\frac{1}{4}$	$\frac{1}{2}$	1	2	3
y											

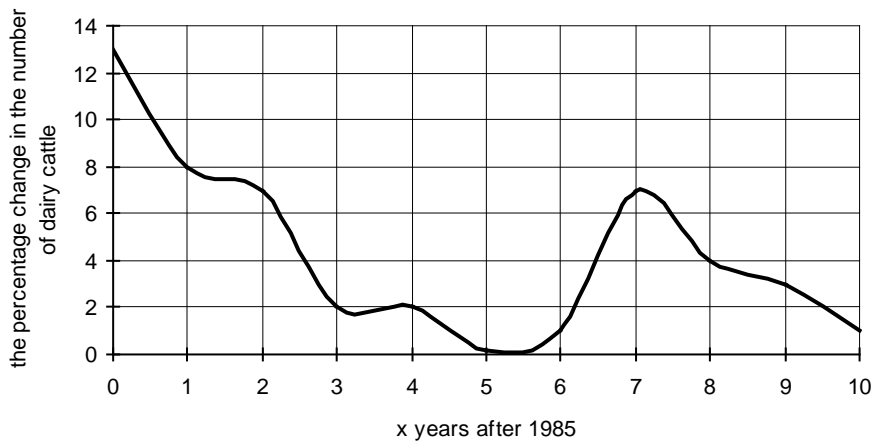
(d) $y = 7$

x	-3	-2	-1	0	1	2	3	4
y								

(e) $y = 2^x$

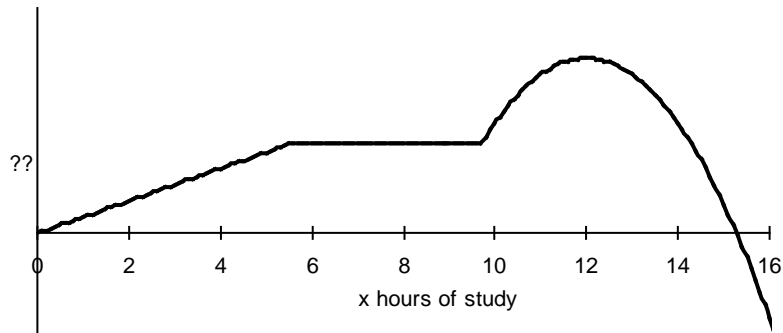
x	-3	-2	-1	0	1	2	3	4
y								

3. Suppose the graph below provides information about the percentage change in the number of dairy cattle on farms in the United States x years after 1985.



- (a) What are the x units?
- (b) What are the units for quantities measured on the vertical axis?
- (c) Can the graph appear to the left of the vertical axis? Explain.
- (d) Can the graph appear below the horizontal axis? Explain.
- (e) Can the graph be used to determine the number of dairy cattle on farms in the United States? Explain.

4. Consider the graph given below.



- (a) Suppose the graph depicts your grade out of 100 points on your first exam after x hours of study.
- Could the graph appear below the horizontal axis? Explain.
 - Could the graph appear to the left of the vertical axis? Explain.
- (b) Suppose the graph depicts the change in your grade out of 100 points on your first exam after x hours of study.
- Could the graph appear below the horizontal axis? Explain.
 - Could the graph appear to the left of the vertical axis? Explain.
- (c) Suppose the graph depicts the rate of change of your grade out of 100 points on your first exam after x hours of study.
- Could the graph appear below the horizontal axis? Explain.
 - Could the graph appear to the left of the vertical axis? Explain.

5. Suppose graph below depicts the number of employees at the *Doors International Corporation* when the CEO is paid x hundred thousand dollars annually.



- Can the graph appear below the horizontal axis? Explain.
- Can the graph appear to the left of the vertical axis? Explain.
- What are the x units?
- What are the y units?