C: Linear Relationships

Given a linear relation you must be able to:

1. Make a table of values.
2. Graph the ordered pair.

Examples:

1. A texting plan can be represented by $C = 3t$, where C is the cost in cents and t is the time in minutes.

a) Make a table of values.

You choose these values

# of texts, (t)	0	1	2	3
Cost ($¢$)	0	3	6	9

Substitute your chosen values to determine C.

$C = 3t$

$= 3(0)$ $= 3(1)$

$= 0$ $= 3$

$= 3(2)$ $= 3(3)$

$= 6$ $= 9$

b) Graph the ordered pair.

→ See next page. *Red check mark indicates where a mark will be given.

c) Is it reasonable to have points between the ones on your graph?

No because you cannot have partial amounts of texts.

e.g. Can't send 6.8 texts.

2. Make a table of values for $y = -4x$ using $x = -2, 0, 2, 4$. Draw the graph.

x	-2	0	2	4
y	8	0	-8	-16

$x = -2$: $y = -4x$, $= -4(-2)$, $= 8$

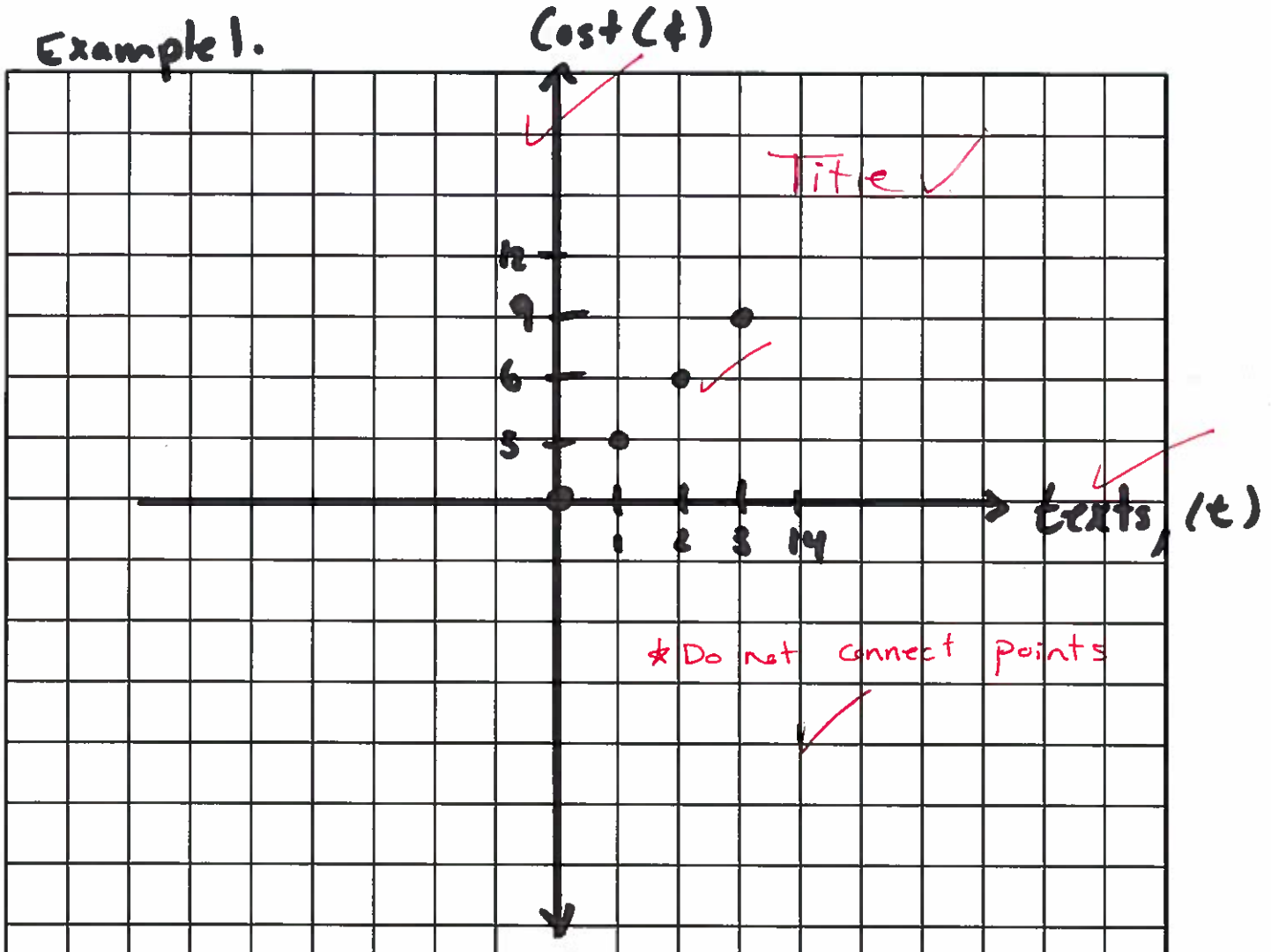
$x = 0$: $y = -4x$, $= -4(0)$, $= 0$

$x = 2$: $y = -4x$, $= -4(2)$, $= -8$

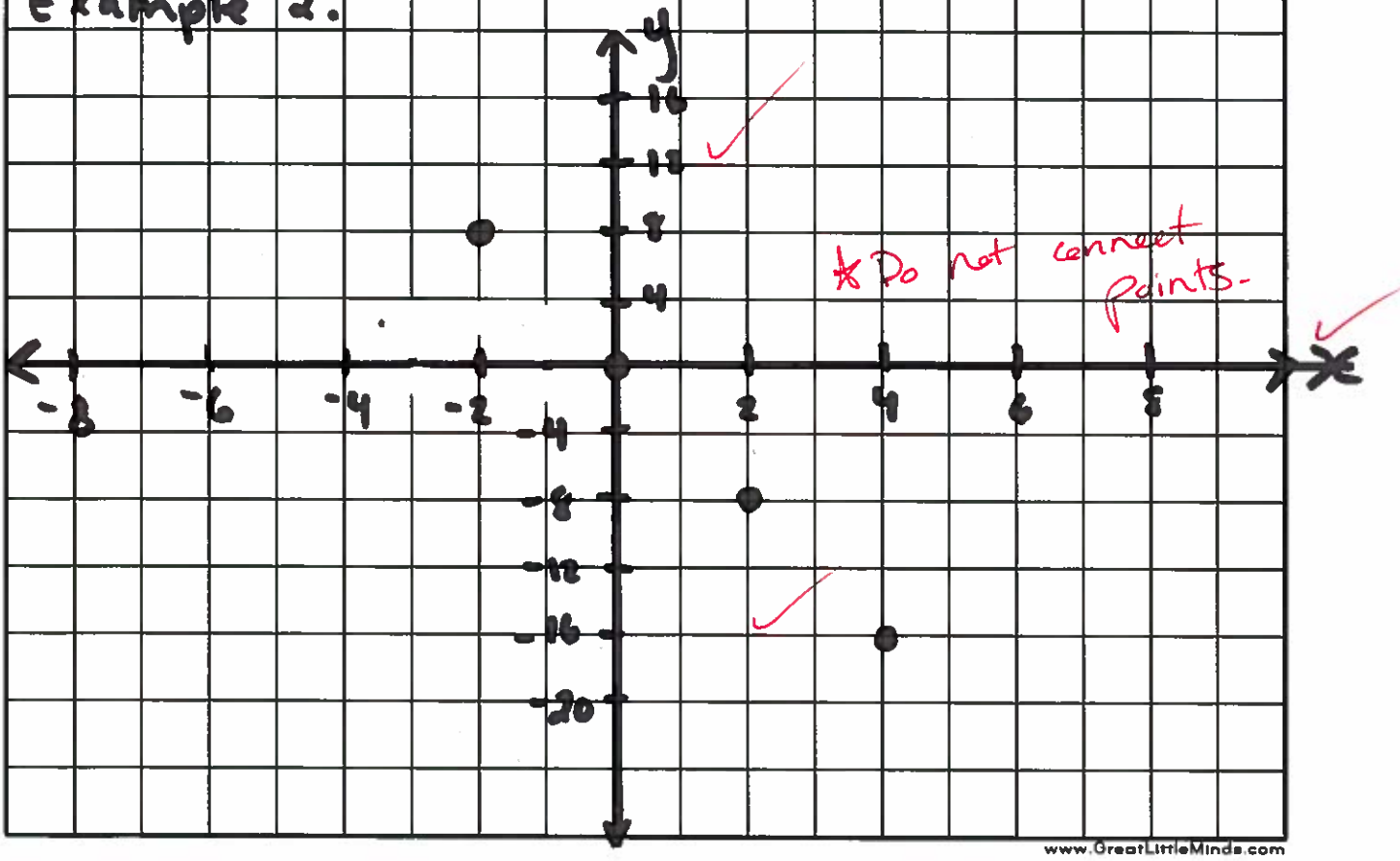
$x = 4$: $y = -4x$, $= -4(4)$, $= -16$

→ See next page

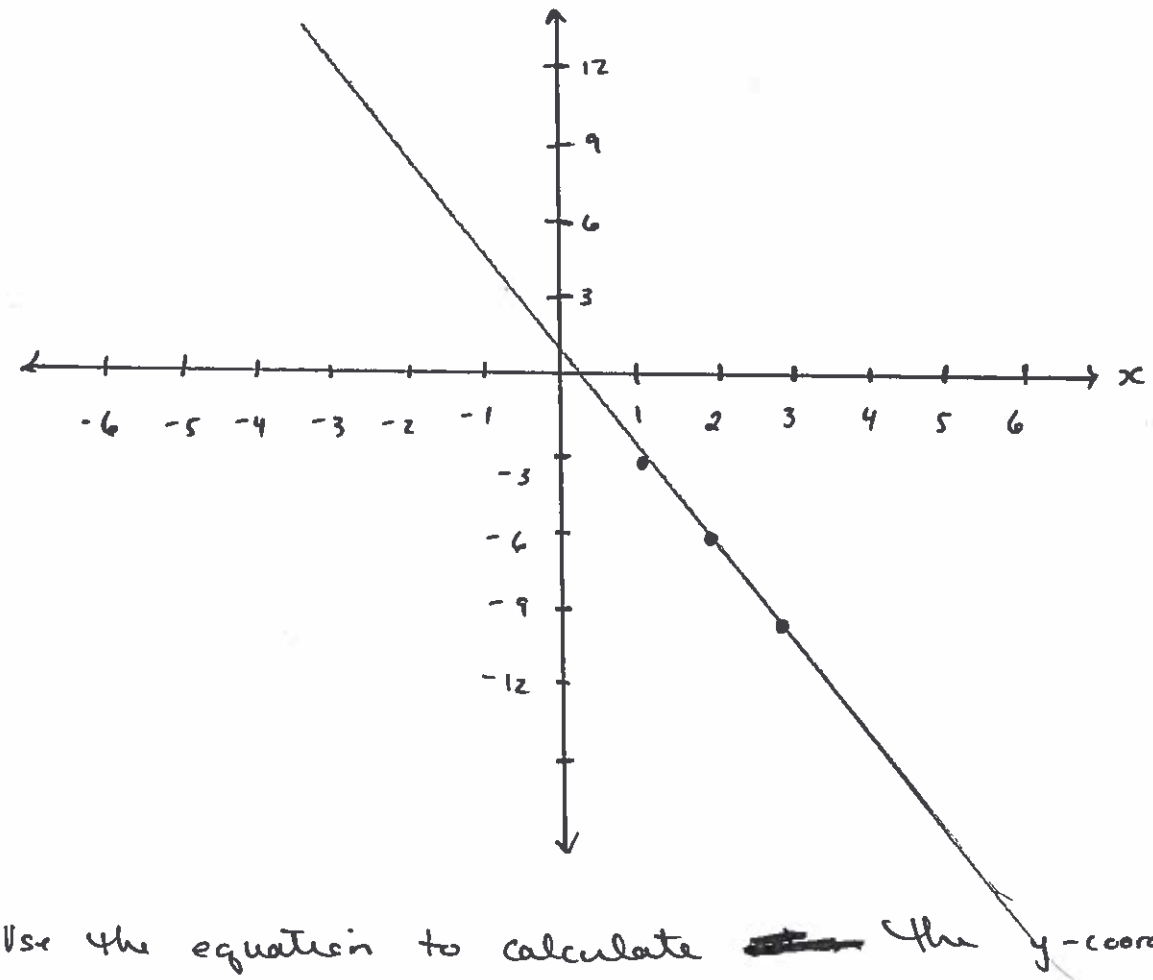
Example 1.



Example 2.



3. The graph below represents part of $y = -3x$.



a) Use the equation to calculate the y-coordinate when $x = -1$.

$y = -3x$

$= -3(-1)$

$\boxed{y = 3}$

b) What is the value of y in $(-4, y)$? (x, y) $x = -4$

$x = -4$

$y = -3x$

$= -3(-4)$

$= 12$.

c) What are the coordinates for the point that lies on the y-axis? $x = 0$

x-coordinate is 0 on x-axis. $x = 0$

$x = 0$ $y = -3x$ $= -3(0) = 0$ $(0, 0)$

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