1.1 Tables & Graphs of Linear Eqs.

Obj: 1. Represent a real-world linear relationship in a table, graph or eq.
2. Identify linear equations.

$55 base rate
$35 /hr.

h	# of hours	1	2	3	4	5
c	$	55 + 35	55 + 35(2)	55 + 35(3)	55 + 35(4)	230
		90	125	160	195	

* $c = 55 + 35h$

$c = 55 + 35 \cdot 5 = 230$

Sep 12-10:39 AM

Linear Equation

$y = mx + b$ Slope-intercept form

m: slope
b: y-int

$y + 2 = x$
$-2 \quad -2$
$y = x - 2$
Yes linear

$x^2 + 6x = y$
Not linear

$y = 4$
$y = 0x + 4$
Linear

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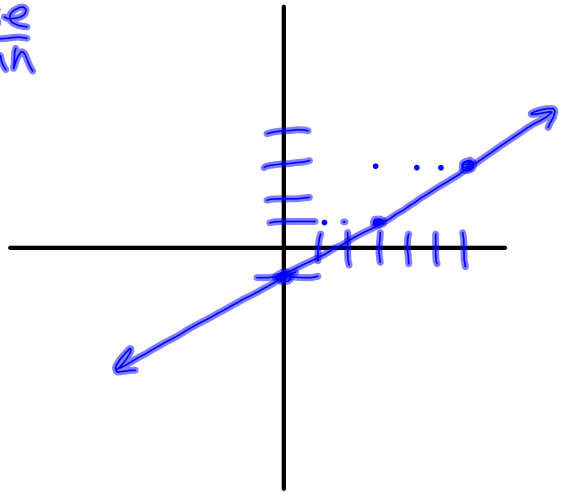
Graph: $y = \frac{2}{3}x - 1$

slope: $\frac{2}{3} = \frac{\text{rise}}{\text{run}}$

yint: -1



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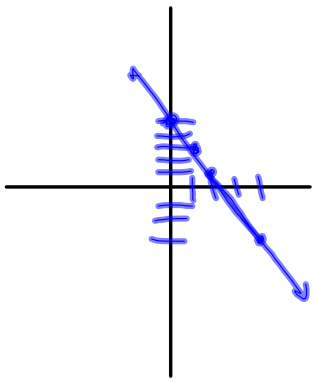
Graph: $y = -2x + 5$

x	y
0	$-2 \cdot 0 + 5 = 5$
1	$-2 \cdot 1 + 5 = 3$
2	$-2 \cdot 2 + 5 = 1$
4	$-2 \cdot 4 + 5 = -3$

+1, +1, +2

-2, -2, -4

(0,5), (1,3), (2,1), (4,-3)



$\frac{\Delta y}{\Delta x} = \frac{-2}{1} = \frac{-2}{1} = \frac{-4}{2}$

Linear

In a linear relationship, a constant difference in consecutive x values results in a constant difference in consecutive y values.

Sep 12-11:03 AM

Does the table represent a linear relationship between x and y? Why or why not?

x	7	12	17	22	27	32	42
y	11	8	5	2	-1	-4	-10

+5 +5 +5 +5 +5 +10

-3 -3 -3 -3 -3 -6

$\frac{\Delta y}{\Delta x} = \frac{-3}{5} = \frac{-6}{10}$ Linear

x	-2	2	6	10	14	18
y	1	2	4	8	16	32

+4 +4 +4

+1 +2 +4 +8 +16

Not linear: Δy is not constant.

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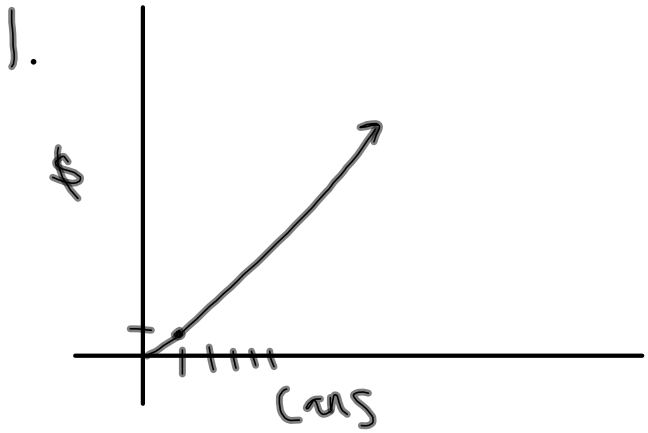
Worksheet

1.



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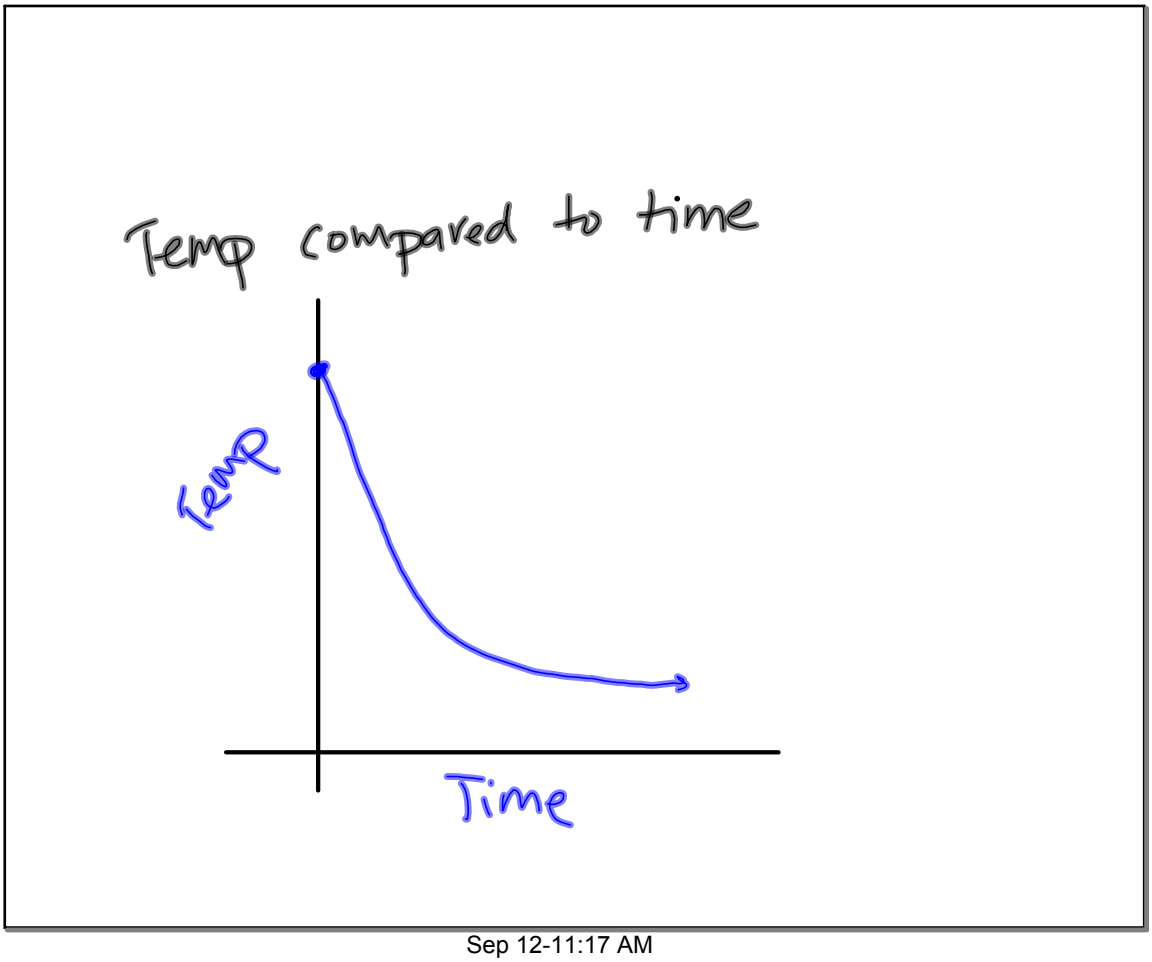

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