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Section 2.E.1

Slope-Intercept Form Word Problems

1) A taxi charges an initial fee of \$1. The taxi also charges \$2 for every mile traveled. Model the scenario with a graph and equation.

$y = mx + b$

$y = 2x + 1$

$m = 2$
up 2, over 1

$b = 1$ starting point (0, 1)

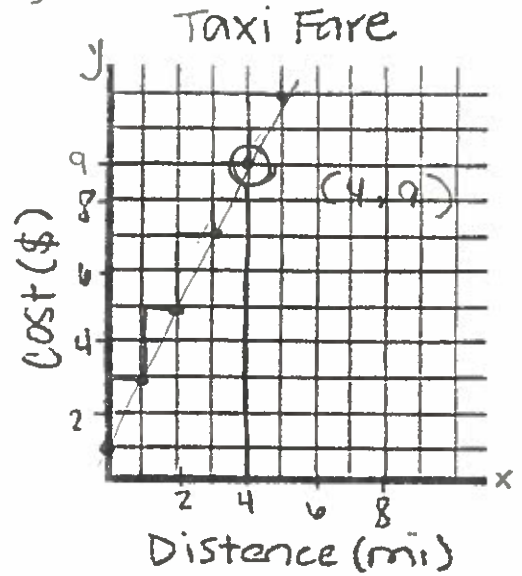
What is the cost of a 4-mile ride?

$x = 4$ $y = ?$ (9)

$y = 2(4) + 1$

$y = 8 + 1$

$y = 9$



How to Write the Equation & Define Variables

y	=	m	x	+	b
<ul style="list-style-type: none"> Dependent variable units from units of the y-intercept what you're writing the equation for. 		<ul style="list-style-type: none"> Give you a number. Rate of change. Slope per, each, every 	<ul style="list-style-type: none"> Independent variable units from per... _____ each... _____ every y... _____ 		<ul style="list-style-type: none"> Give you a number starting point y-intercept initial fee one-time amount

2) A woman puts \$10 on a gift card for gas. Gas costs \$2 per gallon. Model the scenario with a graph and an equation.

$y = mx + b$

$y = -2x + 10$

$m = -2$

down 2, over 1

$b = 10$ (0, 10)

How much is left on the card after she pumps 4 gallons?

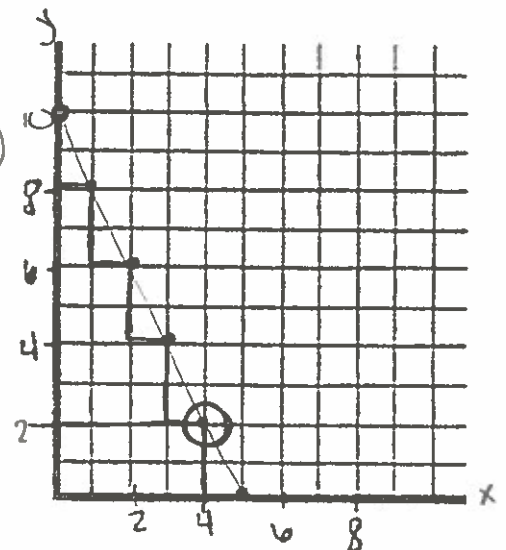
$x = 4$ $y = ?$ (2)

$y = mx + b$

$y = -2(4) + 10$

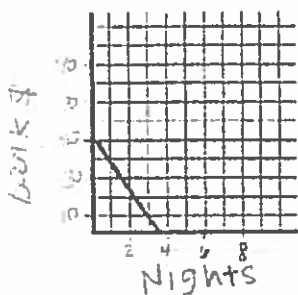
$y = -8 + 10$

$y = 2$

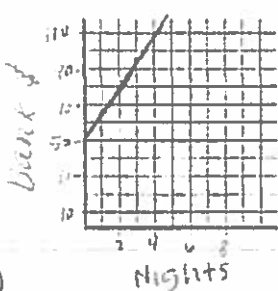


Multiple Choice Practice - Slope Intercept Form

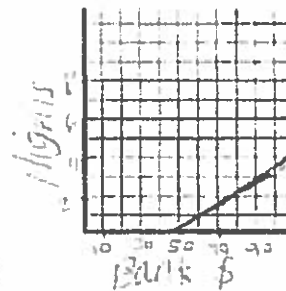
1) Briana starts with \$50 in her savings account. She earns \$15 per night house-sitting for a neighbor who is out of town. Briana deposits all her money and makes no withdrawals. Which graph best describes the amount of money, m , in her bank account after n nights? *Justify.*



a) Decreasing



b)



c) starting on x-axis

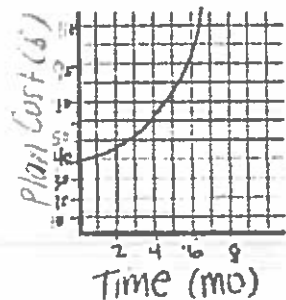
Which equation best describes the scenario?

(a) $m = 50 + 15n$

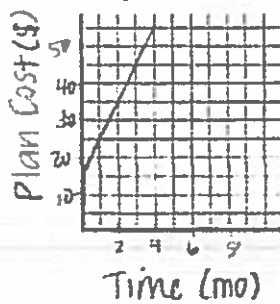
(b) $n = 50 + 15m$
switched the variables

(c) $m = 15 + 50n$
switched m + b

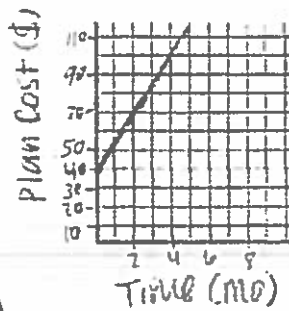
2) A cell phone plan costs \$40 to buy a new phone and then \$15 per month for unlimited texting. Which graph describes the cost, C , of the plan over time, t ? *Justify.*



a) non-linear



b) start @ 15



c) starts @ 40 (\$)

Which equation best describes the scenario?

(a) $C = 15m + 40$
15 per month
 $\Rightarrow (15m)$

(b) $C = 40m + 15$
switched variable

(c) $C = 55m$