Algebra 2 Bellwork Monday, Sept. 29, 2014

1. Rusty's Car Rental charges $100 per day plus $0.30 per mile travelled. Write and solve an equation to find the number of miles travelled if the total bill came to $168.10.

2. If Rent-a-Clunker charges $85 per day plus $0.35 per mile find the number of miles you would need to drive so that the rental bill would be the same for these two car rental company's.

3. You bought 4 pops and 3 bags of chips for $12.45. Your friend bought 1 pop and 2 bags of chips for $4.55.

a. Model this situation with a system of equations.

b. Solve this system of equations to find the cost of a pop and the cost of a bag of chips.

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1. Rusty's Car Rental charges $100 per day plus $0.30 per mile travelled. Write and solve an equation to find the number of miles travelled if the total bill came to $168.10.

M = # miles

$100 + .30m = 168.10$

$-100 \quad -100$

$\frac{.30m}{.30} = \frac{68.10}{.30}$

$m = 227$ miles

2. If Rent-a-Clunker charges $85 per day plus $0.35 per mile find the number of miles you would need to drive so that the rental bill would be the same for these two car rental company's.

Rusty's: $y = 100 + .30m$

clunkers: $y = 85 + .35m$

$100 + .30m = 85 + .35m$

$-.30m \quad -.30m$

$\frac{15}{.05} = \frac{.05m}{.05}$

$100 = 85 + .05m$

$-85 \quad -85$

$m = 300$ miles

3. You bought 4 pops and 3 bags of chips for $12.45. Your friend bought 1 pop and 2 bags of chips for $4.55.

a. Model this situation with a system of equations.

$4p + 3c = 12.45$

$p + 2c = 4.55$

p = # pops

c = # bags of chips

b. Solve this system of equations to find the cost of a pop and the cost of a bag of chips.

use elimination or substitution

$4(p + 2c = 4.55) \rightarrow 4p + 8c = 18.20$

$-4p + 3c = 12.45$

$5c = 5.75$

$c = 1.15$

if $c = 1.15$ $p + 2(1.15) = 4.55$

chips $1.15 each

pop $2.25 each