Systems of Equations - Story Problems

1. Fordson is selling tickets to the talent show. On the first day of sales, they sold 4 student tickets and 5 guest tickets for a total of \$102. The second day, they earned \$126 from 7 student tickets and 5 guest tickets. What are the prices each of one student ticket and one guest ticket?

$$x = \text{price of student} \qquad (4x + 5y = 102) - 1 \qquad > 4(8) + 5y = 102$$

$$y = \text{price of quest} \qquad 7x + 5y = 126 \qquad 32 + 5y = 102$$

$$-4x - 5y = -102 \qquad 5y = 10$$

$$3x = 24 \qquad \text{The price of a student tracket}$$

$$x = 8 \qquad \text{was $$8$ and a quest was $$14$}.$$

2. Mariam and Aya are selling cookies and cupcakes for a school fundraiser. Mariam sold 10 cookies and 9 cupcakes for a total of \$37. Aya sold 6 cookies and 18 cupcakes for a total of \$60. What was the cost of one cookie and the cost of one cupcake?

$$X = 2 \cos t \text{ of cooker}$$
 $(10x + 9y = 37) - 2$ $(10x + 9y = 37)$

3. Reem is selling snacks at a basketball game. A slice of pizza is \$3 and a bag of chips is \$2 and she earned \$160. She also sold 62 snacks in total. How many slices of pizza and bags of chips did she sell?

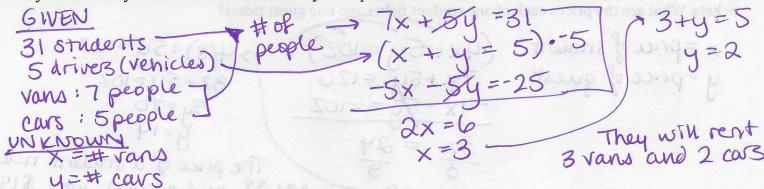
$$X= \# pizza Slices$$
 $y= \# bags of chips$
 $y= \# bags of chips$
 $y= 2b$
 $y=$

4. Starbucks sells lattes for \$5 and scones for \$4. One Saturday, they earned \$650 by selling 144 items in total. How many lattes and how many scones did they sell?

latte = \$5
$$\frac{1}{5}$$
 $\frac{1}{5}$ $\frac{1$

Hour: Date:

5. A group of 31 UM students are going on a ski trip up north. Five people are willing to drive so they're going to rent 5 vans or cars. The vans seat 7 people and the cars seat 5 people. How many vans and how many cars do they need to rent to drive everyone up north?



6. Ahmed bought 4 notebooks and 3 binders for the new school year and spent \$33. Abdullah bought 5 notebooks and 2 binders for a total of \$29. How much did a notebook cost and a binder cost?

$$X = \text{ cost of notebook}$$
 $(4x+3y=33)\cdot 2 \rightarrow 8x + by=bb$
 $y = \text{ cost of binder}$ $(5x+2y=29)\cdot 3 \rightarrow -15x-by=-87$
 $-7x=-21$

A notebook cost \$3 and $(5x+2y=29)\cdot 3$

a binder cost \$7.

7. A vending machine accepts only \$1 and \$5 bills because its coin slot is broken. One day, it gathered 156 bills for a total of \$244. How many \$1 and \$5 bills were put in the machine that day?

\$1 worth 17 money
$$= (1x + 5y = 244) \cdot -1$$
 $= 134$ $=$

8. (SAT EXAMPLE) A food truck sells salads for \$6.50 each and drinks for \$2 each. The food truck's revenue from selling a total of 290 salads and drinks in one day was \$836.50. How many salads were sold

that day? A) 57 B) 73 C) 99 D) 233 4.5x = 256.5 x = 57 = # of salads