PRACTICE

1) Santiago has $44 to buy 7 pairs of socks. Athletic socks cost $5 per pair. Dress socks cost $8 per pair. How many pairs of each can Santiago buy? x = # of Athletic socks, y = # of Dress socks.

$$\begin{cases} x+y=7 \\ 5x+8y=44 \end{cases}$$

$x+y=7 \rightarrow y=-x+7$

$5x+8(-x+7)=44$

$5x-8x+56=44$

$-3x=-12$

$x=4$, $y=3$

Santiago bought 4 pairs of Athletic socks, 3 pairs of Dress Socks

2) Mrs. Berman's Algebra test has 25 problems. Some are worth 2 points and some are worth 3 points. The test is worth 60 points total. What is the number of 2 point and 3 point problems on the test?

x = # of 2 pts Questions, y = # of 3 pts Questions

$x+y=25 \rightarrow y=-x+25$

$2x+3(-x+25)=60$

$2x-3x+75=60$

$-x=-15$

$x=15$

$x=15$, $y=10$

There are 15 of the 2 pts questions and 10 of the 3 pts questions.

3) It takes Maria 10 minutes to make a black and white drawing and 25 minutes for a color drawing. On Saturday she made a total of 9 drawings in 2 hours (this is not minutes). How many of each type of drawing did Maria make? x = b/w drawing; y = color drawing

$x+y=9 \rightarrow y=-x+9$

$10x+25(-x+9)=120$

$10x-25x+225=120$

$-15x=-105$

$x=7$, $y=2$

Maria made 7 b/w drawing and 2 color drawing.

4) Gamestop is having a sale on Playstation & COD video games. You can buy 3 Playstation games and 2 COD for $74. OR you can buy 5 Playstation games & 2 COD for $98. How much is the cost of one Playstation and one COD? x = cost of playstation game; y = cost of COD.

$-(3x+2y=74) \rightarrow -3x-2y=-74$

$5x+2y=98 \rightarrow 5x+2y=98$

$2x=24$

$x=12$

$3(12)+2y=74$

$36+2y=74$

$2y=38$

$y=19$

One playstation game costs $12, one COD costs $19.