Warm Up Solve by substitution.

$x - 2y = -25$

$3x - y = 0$

$x - 2y = -25$
$+2y \quad +2y$
$x = 2y - 25$

$3(2y - 25) - y = 0$
$6y - 75 - y = 0$
$5y - 75 = 0$
$+75 \quad +75$
$\frac{5y}{5} = \frac{75}{5}$
$y = 15$

$x = 2(15) - 25$
$x = 5$

$(5, 15)$ ∴ yes (5, 15) soln
$3(5) - 15 = 0$
$0 = 0$ ✓

30)

$y = 3x$
$x = 3y \rightarrow x = 3(0)$
$x = 3(3x)$
$x = 9x$
$-x \quad -x$
$\frac{0}{8} = \frac{8x}{8}$
$x = 0$

36) $x - y = 2$
$2x + y = 1$
$-2x \quad -2x$
$y = -2x + 1$

$x - (-2x+1) = 2$
$x + 2x - 1 = 2$
$3x - 1 = 2$
$+1 \quad +1$
$\frac{3x}{3} = \frac{3}{3}$
$x = 1$

32) $x + y = 12$
$x + \frac{3}{2}y = \frac{3}{2}$

$x + y = 12$
$-y \quad -y$
$x = -y + 12$

$-y + 12 + \frac{3}{2}y = \frac{3}{2}$
$\frac{1}{2}y + 12 = \frac{3}{2}$
$-12 \quad -\frac{24}{2}$
$2 \cdot \frac{1}{2}y = \frac{-21}{2} \cdot 2$
$y = -21$

$x = -(-21) + 12$
$21 + 12$
$x = 33$

34) $\frac{1}{8}p+\frac{3}{4}q=7$

$\frac{3}{2}p-q=4$

$-\frac{3}{2}p \quad -\frac{3}{2}p$

$\frac{-q}{-1}=\frac{-\frac{3}{2}p}{-1}+\frac{4}{-1}$

- $q=\frac{3}{2}p-4$

$q=\frac{3}{2}(8)-4$

$\frac{1}{8}p+\frac{3}{4}(\frac{3}{2}p-4)=7$

$\frac{1}{8}p+\frac{9}{8}p-\frac{12}{4}=7$

$\frac{10}{8}p-3=7$

$+3 \quad +3$

$\frac{4}{5}\cdot\frac{5}{4}p=10\cdot\frac{4}{5}$

$p=8$

38) $x-2y=9$

$1.5x+0.5y=6.5$

$x-2y=9$

$+2y \quad +2y$

- $x=2y+9$

$1.5(2y+9)+0.5y=6.5$

$3y+13.5+0.5y=6.5$

$3.5y+13.5=6.5$

$-13.5 \quad -13.5$

$3.5y=-7$

x + y = Total

2nd Eqn is about the $ (value)

p.409 #42-44

42. TICKET SALES You are selling tickets for a high school play. Student tickets cost $4 and general admission tickets cost $6. You sell 525 tickets and collect $2876. How many of each type of ticket did you sell?

x = student y = general

$x + y = 525$

$4x + 6y = 2876$

$4(-y+525)+6y=2876$

$-4y+2100+6y=2876$

$2y+2100=2876$

$-2100 \quad -2100$

$\frac{2y}{2}=\frac{776}{2}$

$y=388$

$x+y=525$

$-y \quad -y$

$x=-y+525$

$x=-388+525$

$x=137$

(137, 388)

$4(137)+6(388)=2876$

$2876=2876$ ✓

137 student

388 general

43. ORDERING SOFTBALLS You are ordering softballs for two softball leagues. The Pony League uses an 11-inch softball priced at $2.75. The Junior League uses a 12-inch softball priced at $3.25. The bill smeared in the rain, but you know the total was 80 softballs for $245. How many of each size did you order?

$x+y=80 \rightarrow x+y=80 \bullet x=-y+80$

$2.75x+3.25y=245$

44. MATH TEST Your math teacher tells you that next week's test is worth 100 points and contains 38 problems. Each problem is worth either 5 points or 2 points. Because you are studying systems of linear equations, your teacher says that for extra credit you can figure out how many problems of each value are on the test. How many of each value are there?

$x+y=$

$5x+2y=$

Homework

Add to yesterdays assignment p.409 #42-44

& Review wksts

**Quiz TOMORROW*