Systems Review

GO COUGARS!

Homework Questions

9. $4x-2y+z=8$, $y+z=12$, $z=2$

15. $x+y+z=6$, $2x-y+z=3$, $3x-z=0$

17. $2x+2z=2$, $5x+3y=4$, $3y-4z=4$

19. $4x+y-3z=11$, $2x-3y+2z=9$, $x+y+z=3$

$12x+3y-9z=33$

$2x-3y+2z=9$

$4(14x-7z=42) = 56x-28z=168$

$-7(3x-4z=14)$ $-21x+28z=-98$

$35x=70$

$x=2$

$5(3x+3y+5z=1)$

$-3x+5y+9z=0$

$-3(5x+9y+17z=0)$

$-6(-2y-4z=1)$

$15x+15y+25z=5$

$-15x-27y-51z=0$

$-12y-26z=5$

$12y+24z=-6$

$-2z=-1$

$z=\frac{1}{2}$

$-2y-4(\frac{1}{2})=1$

$-2y-2=1$

$-2y=3$

$y=-\frac{3}{2}$

$\frac{1}{x}+\frac{2}{y}-\frac{3}{z}=3$

$\frac{1}{x}-\frac{2}{y}+\frac{1}{z}=1$

$\frac{2}{x}+\frac{2}{y}-\frac{3}{z}=4$

1. A planet's orbit follows a path described by

$16x^2 + 4y^2 = 64$

A comet follows a parabolic path $y = x^2 - 4$

Where might the comet intersect the orbiting planet's path

2. Solve $x-3y=-5$ $x^2+y^2-25=0$

$x=3y-5$

$(3y-5)^2+y^2-25=0$

$9y^2-30y+25+y^2-25=0$

$10y^2-30y=0$

$10y=0$ $y-3=0$

$y=0$ $y=3$

3. You invest in a new play. The cost includes an overhead of $30,000 and a production cost of $2500 per performance. A sold out performance brings in $3125. How many performances must the company produce to break even?

$x = \#$ perf.

$C = 30{,}000 + 2500x$

$R = 3125x$

$30{,}000 + 2500x = 3125x$

$30{,}000 = 625x$

$x = 48$

4. One Kung Pao Chicken and two Big Macs provide 2620 calories. Two Kung Pao Chickens and one Big Mac provide 3740 calories. Find the caloric content of each item.

$-2(x+2y=2620)$

$2x+y=3740$

$-2x-4y=5240$

$-3y=-1500$

$y=500$

HOMEWORK

P 570 3, 6, 10, 17, 18, 21, 25, 26, 28, 35, 38, 39, 44, 46