Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples	
Systems with **3 VARIABLES**	①	**CHOOSE TWO EQUATIONS** in which you can easily eliminate a variable. Let's call this new equation after the elimination **Equation A**.
	②	**ELIMINATE THE SAME VARIABLE** from a combination of the equation you didn't use and one of the ones you did. Let's call this equation after the elimination **Equation B**.
	③	**PUT EQUATION A AND EQUATION B TOGETHER** and **SOLVE THAT SYSTEM.** You now have two of your variables!
	④	**SUBSTITUTE** your answers from step 3 into either original equation to find the remaining variable. Write your solution as (x, y, z).

:: EXAMPLES ::

1. $2x-6y+9z=-8$
$5x+y+2z=10$
$3x+y-8z=-28$

$(-1, 7, 4)$

① $5x+y+2z=10$
$+-3x+y+8z=+28$
ⓐ $2x+10z=38$

② $2x-6y+9z=-8$
$6(5x+y+2z=10)$
$30x+6y+12z=60$
$+2x-6y+9z=-8$
ⓑ $32x+21z=52$

③ $-16(2x+10z=38)$
$32x+21z=52$
$+-32x-160z=-608$
$-139z=-556$
$z=4$

④ $2x+10(4)=38$
$2x+40=38$
$2x=-2$
$x=-1$

⑤ $2(-1)-6y+9(4)=-8$
$-2-6y+36=-8$
$-6y+34=-8$
$-6y=-42$
$y=7$

2. $4x+y-3z=45$
$6x-4y+3z=41$
$2x-7y-11z=85$

$(8, -2, -5)$

p. 372: 5, 7, 27, 29