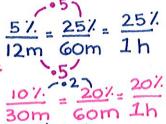
Solving Systems--Substitution with Differing Increments Example:

Sue is charging her phone and tablet at the same time. The phone has 10% of a charge left and charges at a rate of 5% every 12 minutes. The tablet has a 30% charge left and charges at a rate of 10% every 30 minutes.

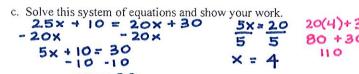
10 10 10



a. Write a system of equations to represent this situation:

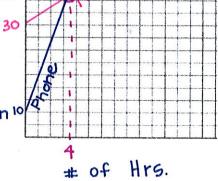
Phone Charge:
$$y = 25x + 10$$
 Tablet Charge: $y = 20x + 30$

b. What do the variables represent? Y= total charge ×= # of hours



- d. When will the phone and tablet have the same charge? Thrs
- e. What will the charge be? 110% (not possible)
- f. Sketch a graph of this situation.
- g. How long will it take for the phone to be fully charged? 3 hrs 36min 10

$$100 = 25 \times + 10$$
 $X = 3\frac{3}{5}$ $90 = 25 \times$



h. How long will it take for the tablet to be fully charged? 3hrs 30min