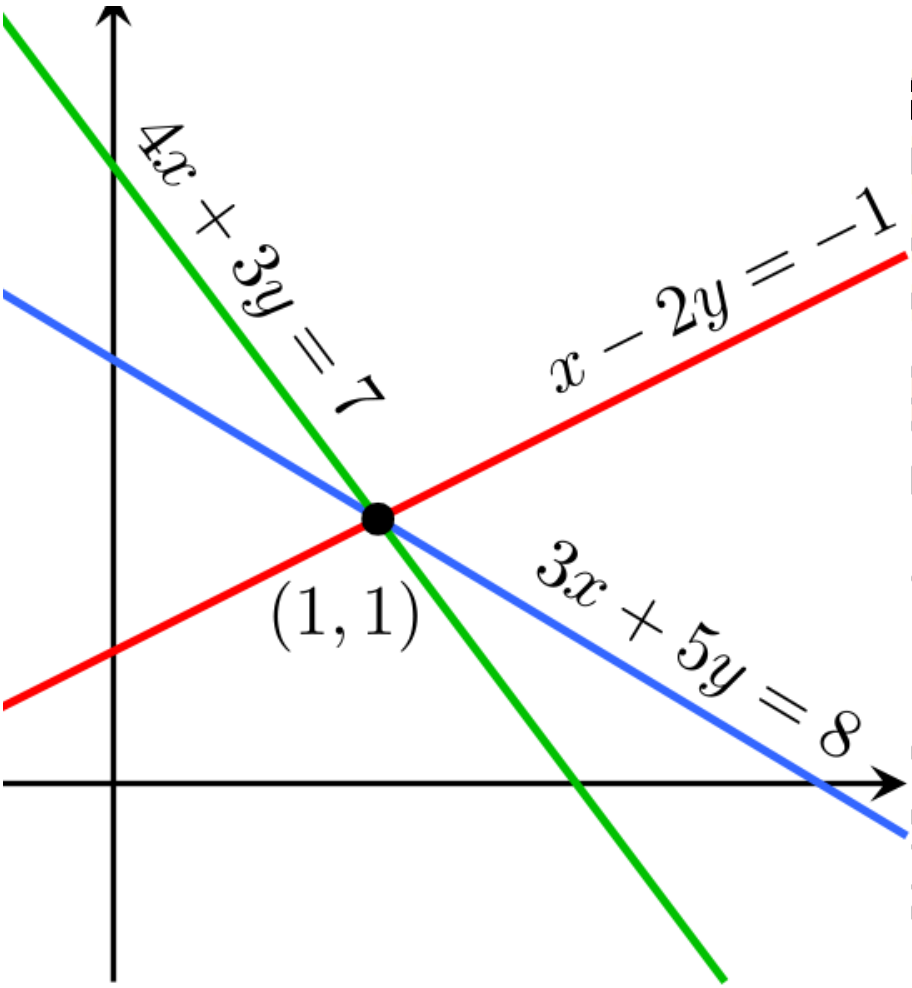
ations



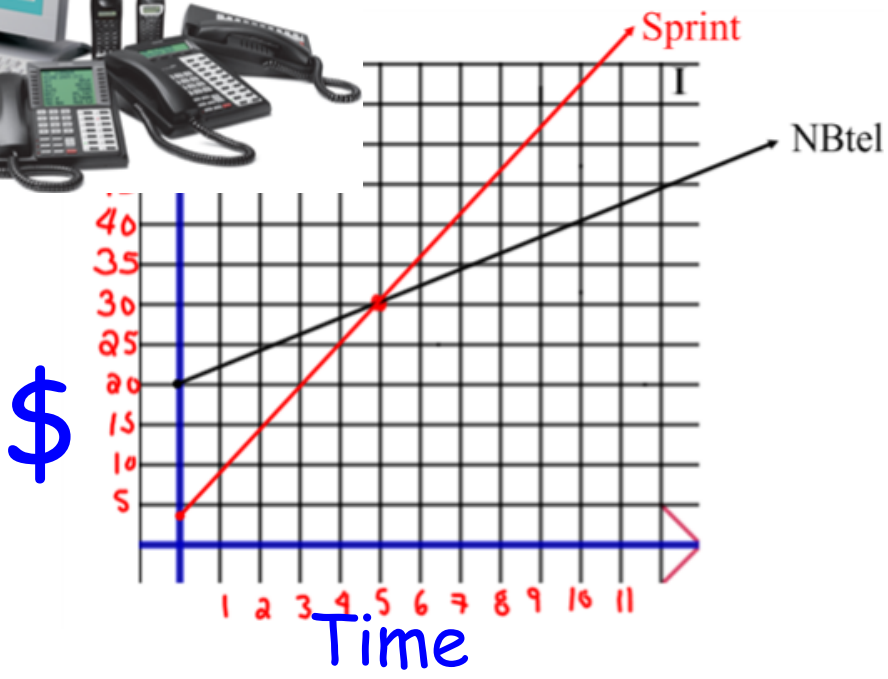
Internet Service

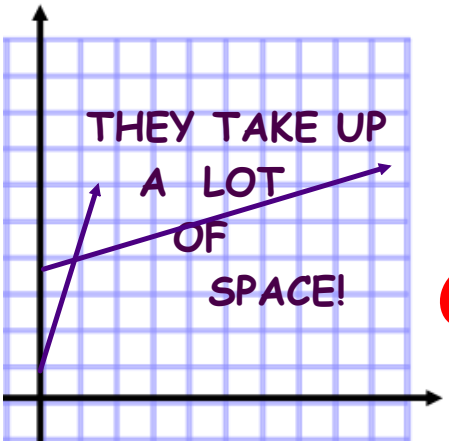
NBtel charges a monthly fee of $20.00, and an additional $2.00 per hour.
Sprint charges a monthly fee of $10.00, and an additional $4.00 per hour.

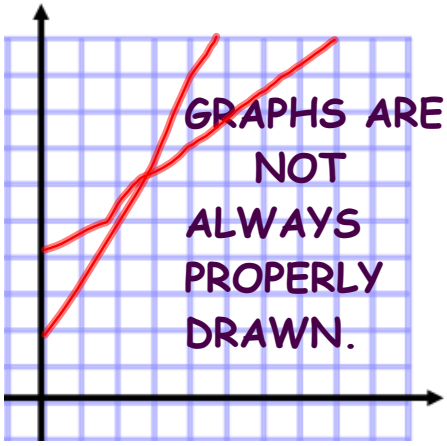
Equation??

NBtel _____

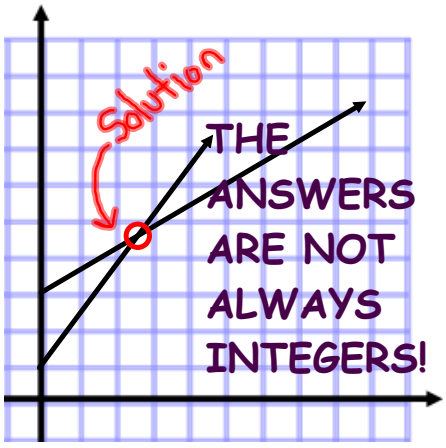
Sprint _____

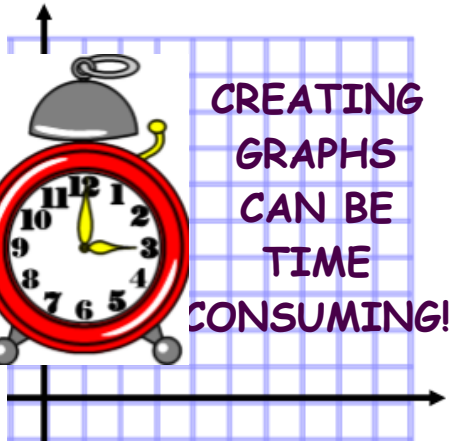


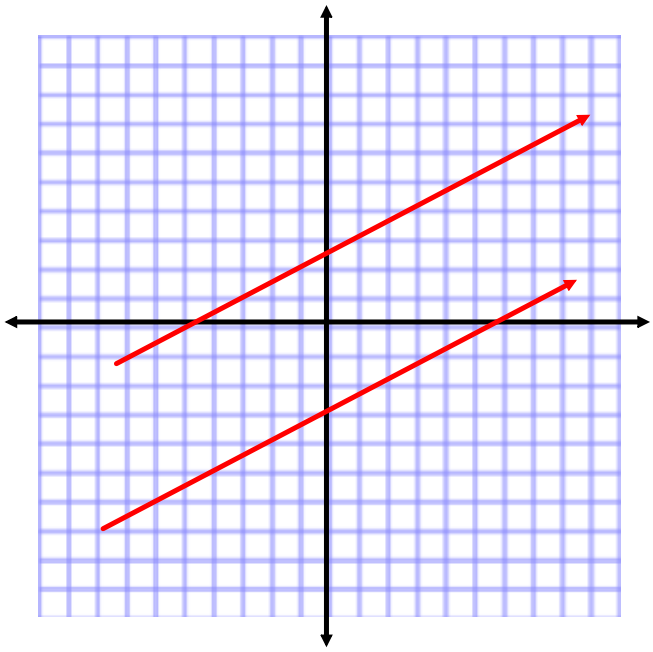




Graphing is not always practical







Parallel lines have no solution!!

There are other ways to solve Systems of Equations!

Elimination

Elimination is when you "eliminate" one of the variables.

Solve the following System of Equations

① $y - 2x = 5$

② $-y - x = 4$

① + ② $-3x = 9$

$\frac{-3x}{-3} = \frac{9}{-3}$

③ $x = -3$

Sub ③ in ② $-y - (-3) = 4$

$-y + 3 = 4$ -3

$\frac{-y}{-1} = \frac{1}{-1}$

$y = -1$

$(-3, -1)$

Make sure the corresponding variables, constants and equal signs are lined up.

You must explain what you are doing.

Solve the following System of Equations

① $3x + y = 0$

② $+(+x + {}^{-}y = {}^{-}8)$

① − ② $4x = -8$

$\frac{4x}{4} = \frac{-8}{4}$

③ $x = -2$

Sub ③ in ① $3(-2) + y = 0$

$-6 + y = 0$ $+6$

$y = 6$

$(-2, 6)$

Make sure the corresponding variables, constants and equal signs are lined up.

You must explain what you are doing.

(1)

① $-4x - 2y = 14$

② $4x + 5y = -17$

① + ②

$3y = -3$

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

$y = -1$

③

Sub ③ in ①

$-4x - 2(-1) = 14$

$-4x + 2 = 14 - 2$

$\frac{-4x}{-4} = \frac{12}{-4}$

$x = -3$

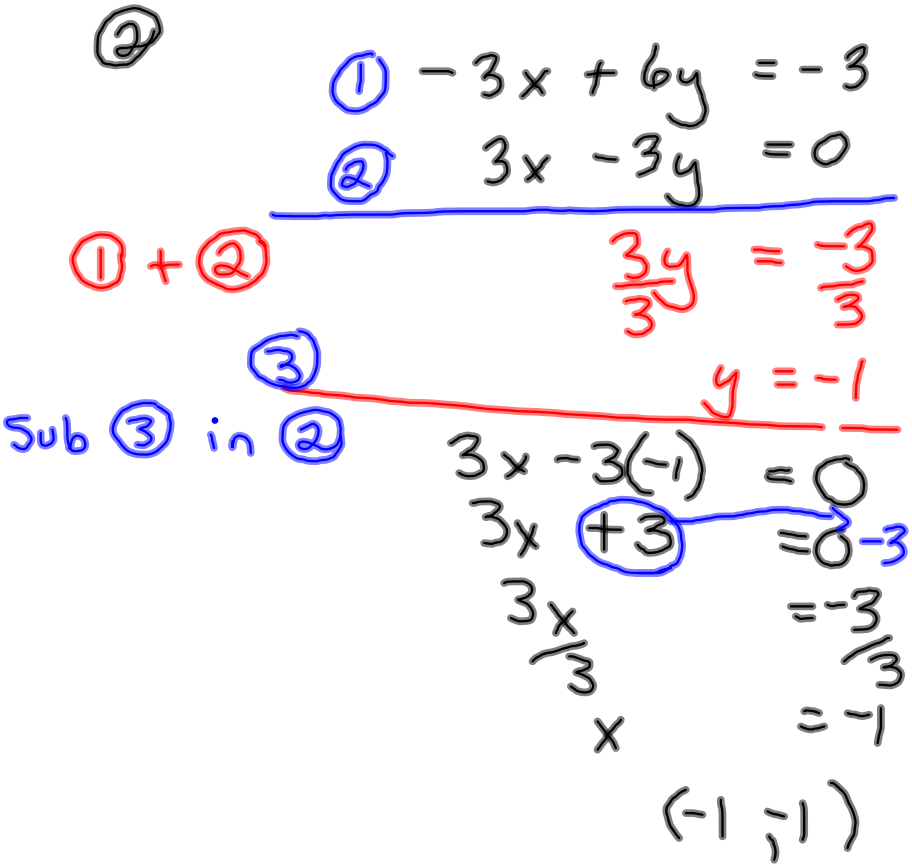
$(-3, -1)$

$4x + 5(-1) = -17$

$4x - 5 = -17$ $+5$

$\frac{4x}{4} = \frac{-12}{4}$

$x = -3$


②
① −3x + 6y = −3
② 3x − 3y = 0
① + ②
3y/3 = −3/3
③
y = −1
Sub ③ in ②
3x − 3(−1) = 0
3x + 3 = 0 −3
3x/3 = −3/3
x = −1
(−1 ; −1)

Solve the following System of Equations

$3x + 2y = 12$

$2x + 3y = 13$

Make sure the corresponding variables, constants and equal signs are lined up.

You must explain what you are doing.

Try these:

1.

$$x - 2y = 5$$
$$+\ 2x + 2y = 7$$

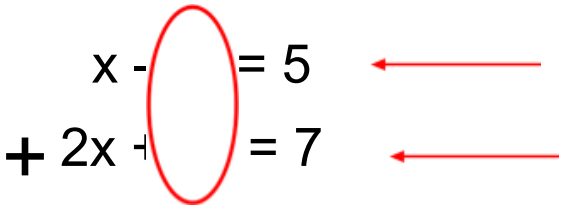
2.

$$6x + 11y = -5$$
$$6x + 9y = -3$$

3.

$$x + 2y = 6$$
$$3x + 3y = -6$$

1.



Lets add both equations to each other

solve for x

ANS: (4, y)

x= 4

Now solve for y (HOW???)

- sub the value of x into one of the equations and solve for y

$$x - 2y = 5$$
$$4 - 2y = 5$$
$$-2y = 1$$
$$y = \frac{-1}{2}$$

intersection point (4, - 0.5)

2.

Careful you are subtraction all of the second
(switch all signs on t second equation)

$$6x + 11y = -5$$
$$-6x - 9y = +3$$
$$2y = -2$$

$$y = -1$$

solve for x

$$6x + 11y = -5$$
$$6x + 11(-1) = -5$$
$$6x - 11 = -5$$
$$6x = -5 + 11$$
$$6x = 6$$
$$x = 1$$

Intersection (1, -1)

3.

Consider the system

$$3x + 6y = 18$$
$$-3x - 3y = +6$$

Now subtract the equations

$$3y = 24$$

$$y = 8$$

Sub into equation 1 (original) or the above

$$x + 2y = 6$$
$$x + 2(8) = 6$$
$$x + 16 = 6$$
$$x = 6 - 16$$
$$x = -10$$

$$(-10, 6)$$


STOP