$A = B$

α

$2 + 4 = 6$

$\frac{2x}{2} = \frac{5}{2}$

$x = 2.5$

$7 * 2 / 2$

$3x + 1 = 7$

$3x = 6$

$x = 2.$

$\frac{2 * x}{2} > \frac{5}{2}$

$x > 2.5$

$\Rightarrow \frac{6}{2} > \frac{5}{2}$

$3 > 2.5$

$\frac{3x}{3} < \frac{27}{3}$

$x < 9$

$\frac{-2x}{-2} > \frac{5}{-2}$

$x < -2.5$

If $x = -3$.

LHS $= -2 \times (-3) = 6$

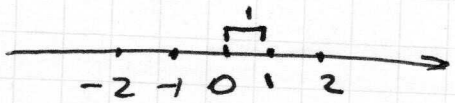
1. a). $x+6=8$
$-6 \quad -6$
$x=2$

b) $4+x=2$
-4
$x=-2$

c). $x-5=9$
$+5 \quad +5$
$x=14$

2. a). $\frac{2x}{2}=\frac{18}{2}$
$x=9$

3. c). $6x+3x+x+1=21$ |(2)| |−(3)|
$9x+x+1=21$
$10x+1=21$
$-1 \quad -1$
$\frac{10x}{10}=\frac{20}{10}$
$x=2$



Ex. 2.

3). a). $\frac{6x}{6}+\frac{1}{6}>\frac{13}{6}$

1' $x+\frac{1}{6}>\frac{13}{6}-\frac{1}{6}$ →

$x+\frac{1}{6}>\frac{13}{6}$

$x>\frac{13}{6}-\frac{1}{6}$

$x=\frac{12}{6}=\frac{6}{3}=2$

$-5+4 \quad +4-5$

2' $6x+1>13$
$6x>13-1$
$\frac{6x}{6}>\frac{12}{6}$

$x=2$

$24-(-1)=25.$

b). ~~6x~~ $-5x+4<24$
$-5x<24-4$
$\frac{-5x}{-5}<\frac{20}{-5}$
$x>-4$

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

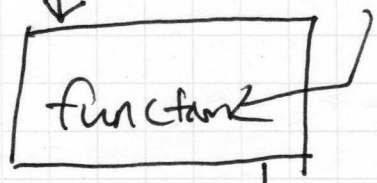
$-2x + 1 \leq 3$

$-2x \leq 3 - 1$

$\frac{-2x}{-2} \leq \frac{2}{-2}$

$x \geq -1$

Input = independent variable



g f $f(x)$

"f of x"

output = dependent variable.

$f(x) = x$

$g = x + 1$

$3x$ ∝

3α

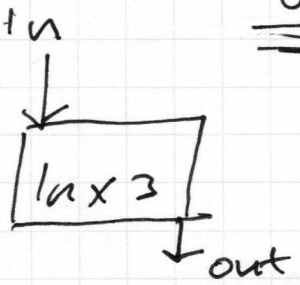
$3y \cdot 3x$

$f(x) = x + 1$

$g(x)$ $h(x)$

$f(x) = x * 3$

$f(x) = 3x$ $x = 1$



when $x = 1$

$f(x) = 3$

$g(x) = \frac{x}{4}$ $x = 8$ y

$y(x) = \frac{8}{4}$

$y(x) = 2$

$g(x) = 3x + 1$ $x = 1$

$g(x) = 3(1) + 1$

$g(x) = 3 + 1$

$g(x) = 4$

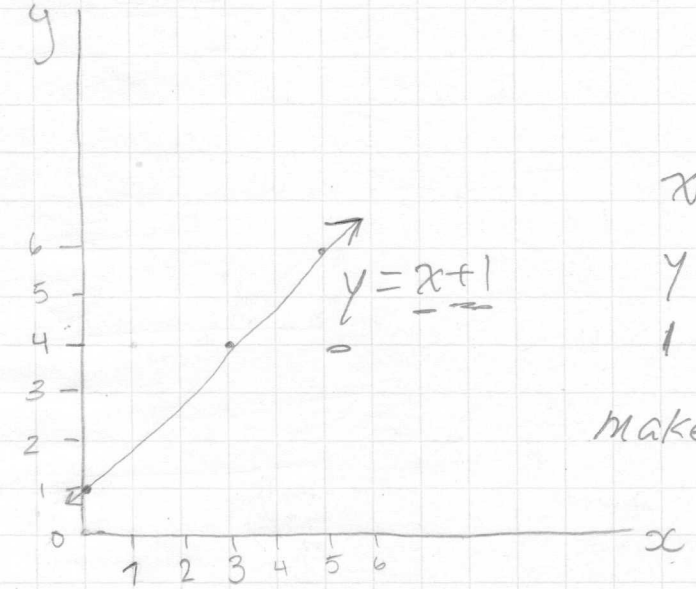
→ $f(x) = x + 1$

let $f(x) = y$

$y = x + 1$

$= 3 + 1$

$y = 4$



x = hr: you work

y = total $

1: base pay.

make $1/hr

~~$f(x) = ax + b$~~

$y = mx + b$ (m, b are constants.)

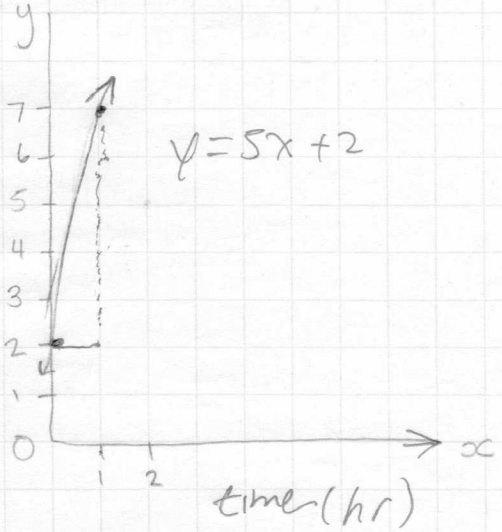
m: slope b: y-intercept.

$y = 5x + 2$

$5(1) + 2$

$5 + 2$

$= 7$



make $5/hr

Slope = rate.

Before started: team score 3 goals

For every hr of coaching, team score one more goal.

let's y = # of goals
x = # of hours of coaching

→ $y = mx + b$
$y = 3x + 1$

Everytime
x ↑ 1
y ↑ 1

when $x = 0$, $y = 3 \Rightarrow b = 3$

$y = x + 3$

Domain $(x) \geq 0$

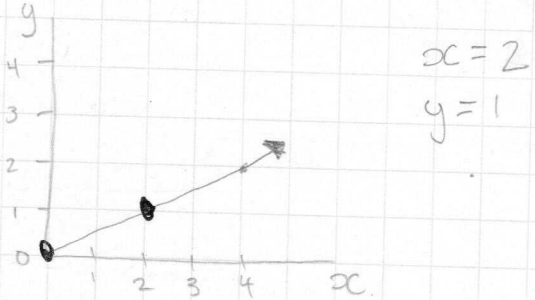
Range $(y) \geq 3$

Before: team 0 goals

Every 2hr of coaching
team sores one more pt.

$m = \frac{\text{rise}}{\text{run}}$

let's y = # of goals
x = # of hrs coaching
$y = mx + b$



$x = 2$
$y = 1$

$y = \frac{1}{2}x + 0$

rise $= \Delta y$
run $= \Delta x$

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

$x, y, z, a, b, c, x_1, y_1$

$c = 2$.

$x = 5c$ $x = 10$

$y = x + 2c$ $y = x + 2(2)$ $y = x + 4$ $y = 10 + 4$ $y = 14$

$z = y + 3 + a$ $z = 14 + 3 + x$ $z = 17 + 10$ $z = 27$

~~$b =$~~ $a = x$ $a = 10$

$b = y$ $b = 14$

$x_1 = a + b$ $x_1 = 10 + 14$

$x_1 = 24$

~~b~~ water $+ x = y$

$14 \text{ water} + 10 = 14$

$-10 \quad -10$

$\frac{14 \text{ water}}{14} = \frac{4}{14}$

$\text{water} = \frac{2}{7}$

$g(\text{water}) = (\text{water} \cdot 2) - 1$

$g(\text{water}) = 2 \text{ water} - 1$