§ 1.2 Wrap-up.

Has 20% alcohol sol'n

& 37% " "

How much of each to make 100 ml of 30% alcohol solution?

Let x = the amt of 20% sol'n (in ml)

y = " " " 37% " (in ml)

$x + y = 100$

Amt of pure alcohol = Amt of pure alcohol

$.2x + .37y = .3(100)$ Pure Alcohol

$x + y = 100 \Rightarrow y = 100 - x$ Total volume

$\Rightarrow .2x + .37(100 - x) = 30$

#69 Want 20 lbs of $1.68 \frac{\$}{lb}$ mix,

using $1.20 \frac{\$}{lb}$ & $1.80 \frac{\$}{lb}$ components.

Let x = the amt of $1.20 \frac{\$}{lb}$ mix (in lbs)

y = " " " $1.80 \frac{\$}{lb}$ mix (in lbs)

Crystal

Total weight $x + y = 20 \Rightarrow y = 20 - x$

?Money? $1.20x + 1.80y = (1.68)(20)$

$$\left(\frac{\$}{lb}\right)(lb) = \$$$

$$1.2x + 1.8(20 - x) = (1.68)(20)$$

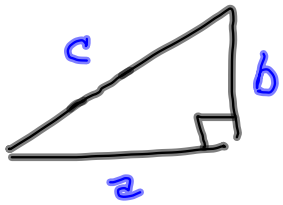
etc.

$\boxed{\text{§1.2 Due Monday}}$

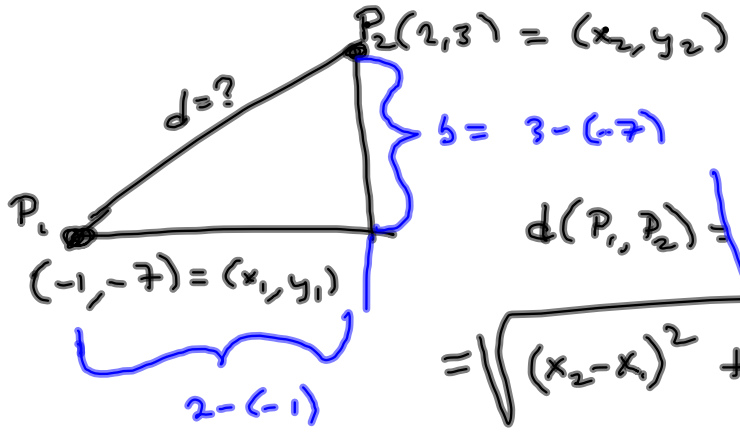
§ 1.3 Potpourri.

Pythagorus

$a^2+b^2=c^2$



$c=\sqrt{a^2+b^2}$

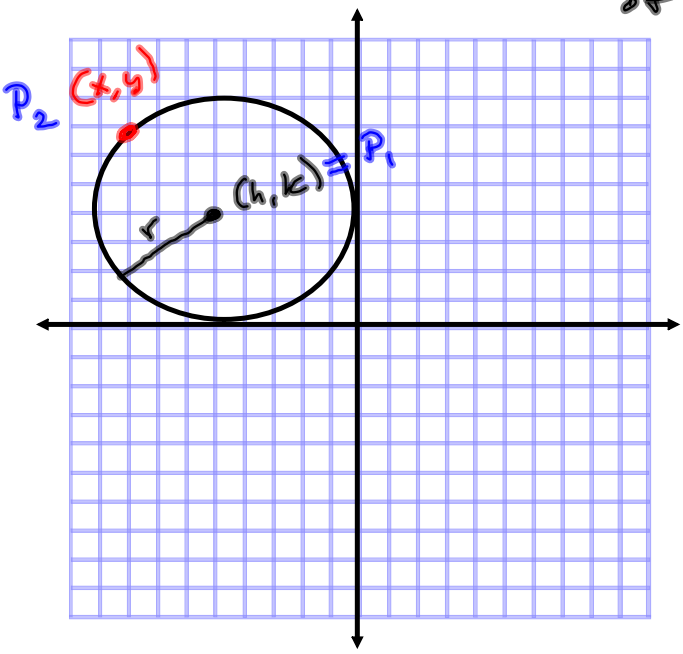


$$d(P_1,P_2)=\sqrt{(2-(-1))^2+(3-(-7))^2}$$

$$=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$$

$$=\sqrt{9+100}$$

$$=\boxed{\sqrt{109}}$$



Circle = the collection of points equidistant from a fixed point (h,k) (the center). The distance is fixed: r = radius.

$$d(P_1,P_2) = \sqrt{(x-h)^2 + (y-k)^2} = r$$

$(x-h)^2 + (y-k)^2 = r^2$ is the standard form of the equation of a circle of radius r centered at (h,k).

The hard part: Figure out (h,k) & r from

$x^2-6x+y^2-8y=0$

$\left(x+\frac{b}{2}\right)^2 = x^2+6x+\left(\frac{b}{2}\right)^2$

$(x+3)^2 = x^2+6x+9$

$(x+3)(x+3) = x^2+3x+3x+9$

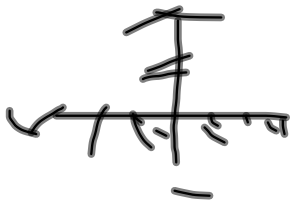
Leanne

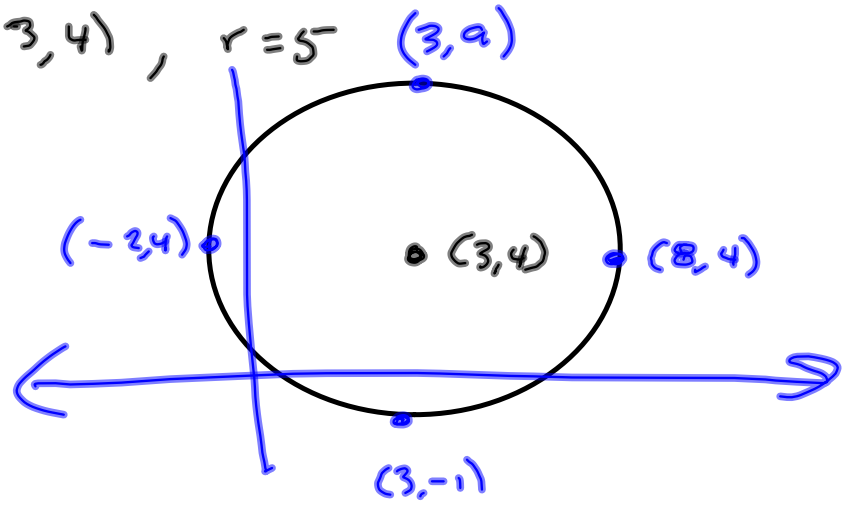
$x^2-6x+3^2+y^2-8y+4^2 = 0+3^2+4^2 = 25$

$\frac{6}{2}=3 \rightarrow 3^2$ $\frac{8}{2}=4 \rightarrow 4^2$

$(x-3)^2+(y-4)^2 = 25 = 5^2$

$(h,k)=(3,4)$, $r=5$





Linear Equation in standard form.

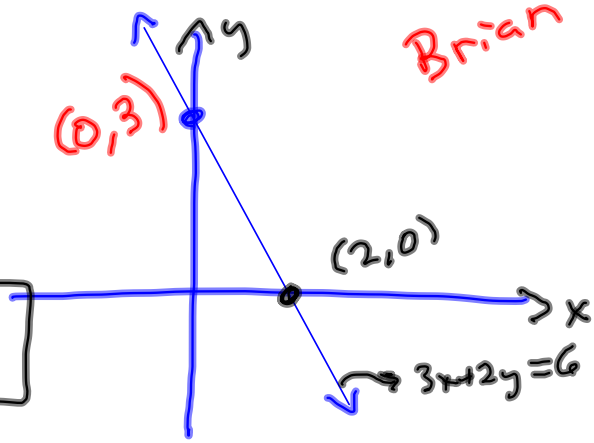
$3x+2y=6$

x	y
0	3
2	0

$\rightarrow (0,3)$

$\rightarrow ($

$\boxed{Ax+By=C}$



Brian

Vertical Line $x=3$ m = unbefined, m $\nexists$

Horizontal $y=7$ $m=0$

Midpoint $= \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

S 1.3 #s 23, 36, 56, 68, 70, 79, 80

Due Monday.

Monday @ 2pm (weekly) Rm 131 in EDBH

Thursday?

$\boxed{\text{SI Session}}$