4. $x^2 + y^2 + x - 4y + \frac{13}{4} = 0$

x's	y's
$(1 \cdot \frac{1}{2})^2$	$(-4 \cdot \frac{1}{2})^2$
$(\frac{1}{2})^2$	$(-2)^2$
$\frac{1}{4}$	4

$x^2 + x + y^2 - 4y = -\frac{13}{4}$

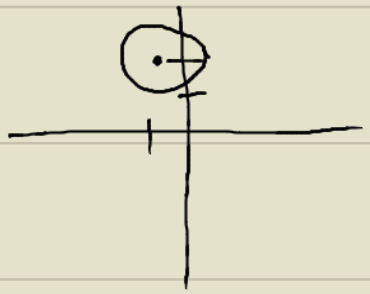
$x^2 + x + \frac{1}{4} + y^2 - 4y + 4 = -\frac{13}{4} + \frac{1}{4} + 4$

$(x + \frac{1}{2})^2 + (y - 2)^2 = 1$

$h = -\frac{1}{2}$ $\quad K = 2$ $\quad r = \sqrt{1}$, $r = 1$

CENTER: $(h, k) = (-\frac{1}{2}, 2)$

RADIUS: $r = 1$



x-INT

$(x + \frac{1}{2})^2 + (y-2)^2 = 1$

$(x + \frac{1}{2})^2 + (0-2)^2 = 1$

$(x + \frac{1}{2})^2 + 4 = 1$

$(x + \frac{1}{2})^2 = 1 - 4$

$(x + \frac{1}{2})^2 = -3$

$x + \frac{1}{2} = \pm\sqrt{-3}$

$x = -\frac{1}{2} \pm i\sqrt{3}$ NO x-INT

y-INT

$(x + \frac{1}{2})^2 + (y-2)^2 = 1$

$(0 + \frac{1}{2})^2 + (y-2)^2 = 1$

$\frac{1}{4} + (y-2)^2 = 1$

$(y-2)^2 = 1 - \frac{1}{4}$

$(y-2)^2 = \frac{3}{4}$

$y - 2 = \pm\sqrt{\frac{3}{4}}$

$y - 2 = \pm\frac{\sqrt{3}}{\sqrt{4}}$

$y - 2 = \pm\frac{\sqrt{3}}{2}$

$y = 2 \pm \frac{\sqrt{3}}{2}$

$y = \frac{4}{2} \pm \frac{\sqrt{3}}{2}$

$y = \frac{4 \pm \sqrt{3}}{2}$

y-INT

$(0, \frac{4 \pm \sqrt{3}}{2})$