

STANDARD FORM

$$(X-h)^2 + (y-k)^2 = r^2$$

CENTER: (h, k)

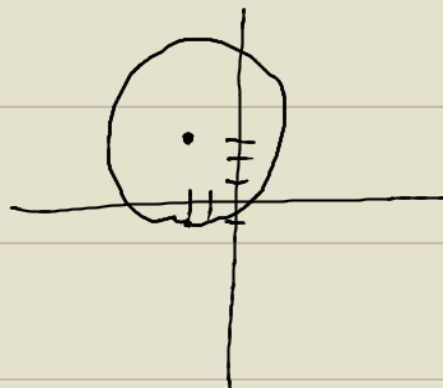
RADIUS: r

1. CENTER $(-2, -4)$ $r = \sqrt{3}$
 h k

$$(X-h)^2 + (y-k)^2 = r^2$$

$$(X-(-2))^2 + (y-(-4))^2 = (\sqrt{3})^2$$

$$(X+2)^2 + (y+4)^2 = 3$$



2. $(X+2)^2 + (y-3)^2 = 16$

opp SIGN $h = -2$
 opp SIGN $k = 3$
 TAKE SQUARE ROOT $r = \sqrt{16}$
 $r = 4$

CENTER: $(h, k) = (-2, 3)$

RADIUS: $r = 4$

3. $X^2 + (y+4)^2 = 1$

$(X-0)^2 + (y+4)^2 = 1$
 $h = 0$
 $k = -4$
 $r = \sqrt{1}$
 $r = 1$

CENTER: $(h, k) = (0, -4)$

RADIUS: $r = 1$

4. $X^2 + y^2 - 8X - 16y + 76 = 0$

② $X^2 - 8X + y^2 - 16y = -76$

$\frac{x^2}{(-8 \cdot \frac{1}{2})^2}$	$\frac{y^2}{(-16 \cdot \frac{1}{2})^2}$
$\frac{(-4)^2}{16}$	$\frac{(-8)^2}{64}$

③ $X^2 - 8X + 16 + y^2 - 16y + 64 = -76 + 16 + 64$

$X^2 - 8X + 16 + y^2 - 16y + 64 = 4$

$(X-4)^2 + (y-8)^2 = 4$
 $h = 4$
 $k = 8$
 $r = \sqrt{4}$
 $r = 2$

CENTER: $(h, k) = (4, 8)$

RADIUS: $r = 2$

