

PRECALC - BE | THURSDAY 2-25-10

① WRITE THE VERTEX FORM OF THE EQUATION OF A CIRCLE WITH CENTER AT $C(-2, 3)$ AND RADIUS = 11

② Change $x^2 + y^2 + y = \frac{3}{4}$ to vertex form

③ Change $6x^2 - 12x + 6y^2 + 36y = 36$ to vertex form.

① $(x+2)^2 + (y-3)^2 = 121$

② $(x-0)^2 + y^2 + y + \left(\frac{1}{2}\right)^2 = \frac{3}{4} + \left(\frac{1}{4}\right)$

$\boxed{(x-0)^2 + \left(y + \frac{1}{2}\right)^2 = 1} \quad C(0, -\frac{1}{2}) \quad r=1$

③ $6x^2 - 12x + 6y^2 + 36y = 36$

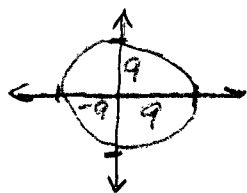
$x^2 - 2x + 1 + y^2 + 6y + 9 = 6 + 1 + 9$

$\boxed{(x-1)^2 + (y+3)^2 = 16}$

$C(1, -3) \quad r=4$

Precalc: Homework Review Pg. 627 #6, 8, 9.

⑥ $C(0,0) \quad r=9 \quad \therefore (x-h)^2 + (y-k)^2 = r^2$



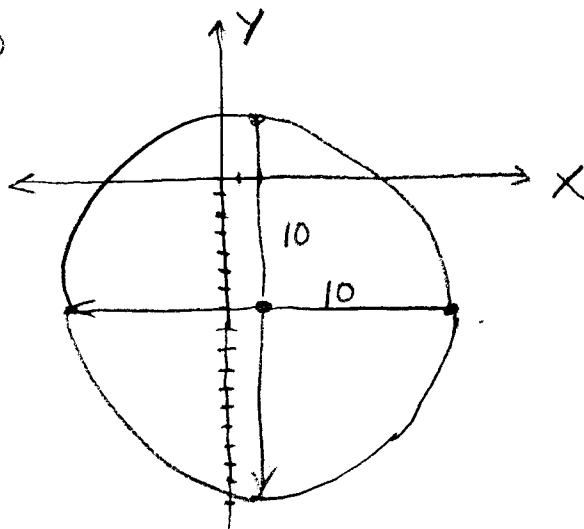
$$x^2 + y^2 = 81$$

⑧ $x^2 + y^2 - 4x + 14y - 47 = 0$

$$x^2 - 4x + 2^2 + y^2 + 14y + 7^2 = 47 + 4 + 49$$

$$(x-2)^2 + (y+7)^2 = 100$$

$C(2, -7) \quad r=10$



⑨ $2x^2 + 2y^2 - 20x + 8y + 34 = 0$

$$x^2 + y^2 - 10x + 4y = -17$$

$$x^2 - 10x + 5^2 + y^2 + 4y + 2^2 = -17 + 25 + 4$$

$$(x-5)^2 + (y+2)^2 = 12$$

$C(5, -2) \quad r = \sqrt{12} = 2\sqrt{3}$

Practice: Ch 10-2

Memorize: Vertex Form

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

C(h,k)

General Form

$$X^2 + Y^2 + Dx + Ey + F = 0$$

- Coefficients of X^2, Y^2 are 1
- No XY term
- change to vertex form by completing THE SQUARE.

Practice: Pg 628 # 21, 23, 24, 26, 27
35-37.