Nombre de alumnos: Danna Itzel López Díaz

Nombre del profesor: Rosario Gómez Lujano

Nombre del trabajo: circunferencia

Materia: geometría analítica

Grado: 3 semestre

Grupo: "U"

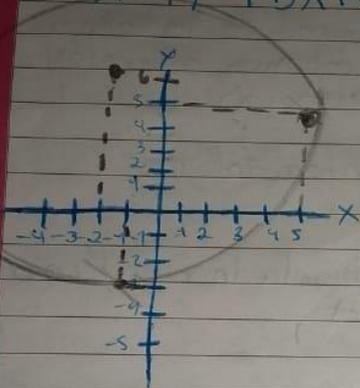Pichucalco, Chiapas a 15 de noviembre de 2020.

Ejercicio 1

Ecuación general de la circunferencia

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

Ecuación general de la circunferencia

$$x^2 + y^2 + Dx + Ey + F = 0$$

$-6(-4)-8E=40$
$24-8E=40$
$-8E=40-24$
$-8G=16$

$-6D-8E=40$
$56D+8E=-240$

$E=\dfrac{16}{-8}=-2$

$50D=-200$
$D=\dfrac{-200}{50}=-4$

D = -4

E = -2

$A(-1,-3)$
$x^2+y^2+Dx+Ey+F=0$
$(-1)^2+(-3)^2+D(-1)+E(-3)+F=0$
$1+9-D-3E+F=0$
$10-D-3E+F=0$
$-D-3E+F=-10$ Ec 1.

$-D-3E+F=-10$
$5D+5E+F=-50 (-1)$

$-D-3E+F=-10$
$-5D+5E-F=50$
$-6D-8E=-40$ ec (4)

$-D-3E+F=-10$
$6D-2E+F=-40 (1)$

$-D-3E+F=-10$
$-6D+2E-F=+40$
$-7D-E=30$ ec (3)

$-6D-8E=40$
$7D-5=30 (-8)$

$B(5,5)$
$x^2+y^2+Dx+Ey+F=0$
$(5)^2+(5)^2+D(5)+E(5)+F=0$
$25+25+5D+5E+F=0$
$5D+5E+F=-50$

$(6,-2)$
$x^2+y^2+Dx+Ey+F=0$
$(6)^2+(-2)+D(6)+E(-2+F=0$
$36+4+6D+-2E+F=0$
$-D+2E-+=-40$
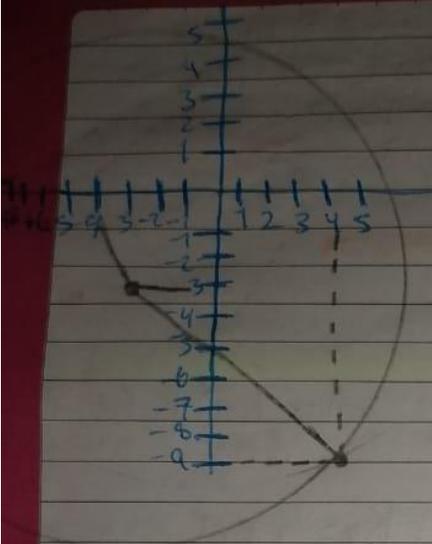
$P(4,-9)$ $(-4,3)$

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

$d=\sqrt{(-4-4)^2+(-3-(-9))^2}$

$d=\sqrt{(-8)^2+(-3+9)^2}$

$d=\sqrt{64+(6)^2}$

$d=\sqrt{64+36}$

$d=\sqrt{100}=10$

$(x-(-4))^2+(y-(-3))^2=(10)^2$

$(x+4)^2+(y+3)^2=100$

$x^2+8x+16+y^2+6y+9=100$

$x^2+y^2+8x+6y+25=100$

$x^2+y^2+8x+6y-75=0$

$$x^2 + y^2 + Dx + Cy + F = 0$$
$$x^2 + y^2 + 4x - 3y - 20 = 0$$

$$-D - 3C + F = -10$$
$$-(4) - 3(-2) + F = -10$$
$$4 + 6 + F = -10$$
$$10 + F = -10$$
$$F = -10 - 10$$
$$F = 20$$

$$5D + 5C + F = -50$$
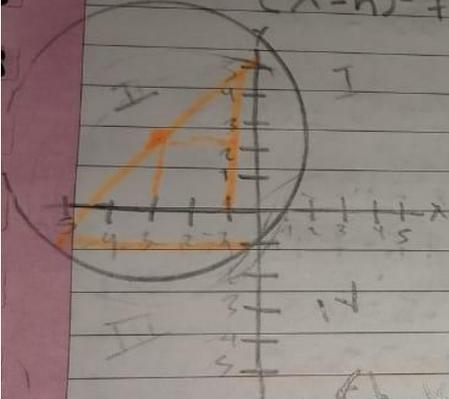$$5(-4) + 5(-2) + F = -50$$
$$-20 - 10 + F = -50$$
$$-80 + F = -30$$
$$F = -50 + 30$$
$$F = -20$$

Ejercicio 2

$$(x - h)^2 + (y - h)^2 = r^2$$

$c(h, k)$

$c(-3, 2)$

(h, k)

$$hx = x_1 + x_2$$

$$hx = \frac{-1 + (-5)}{2} = \frac{-6}{2} = -3$$

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

$$d = \sqrt{(-1 - (-3))^2 + (5 - 2)^2}$$

$$d = \sqrt{(-1 + 3)^2 + (3)^2}$$

$$d = \sqrt{(2)^2 + 9} = \sqrt{4 + 9} = \sqrt{13}$$

$A = (-1, 5) \quad B = (5, -1)$
$\quad x_1 y_2 \qquad x_2 y_2$

$$K_y = \frac{y_1 + y_2}{2}$$

$$K_y = \frac{5 + (-1)^2}{2} = \frac{5 - 1}{2} = \frac{4}{2}$$

$$(x - (-3))^2 + (y - 2)^2 = (\sqrt{3})^2$$
$$(x + 3)^2 + (y - 2)^2 = 13$$

$$x^2 + 6x + 9 + y^2 - 4y + 4 = 13$$
$$x^2 + 6x + y^2 - 4y + 13 - 13 = 0$$
$$x^2 + y^2 + 6x - 4y = 0$$