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RPL XI 2 escarag 7

I
1. a. Dik lingkaran berpusat O(0,0)
   r = 9
   $x^2 + y^2 = r^2$
   $x^2 + y^2 = 9^2$: $x^2 + y^2 = 16$ atau $x^2 + y^2 - 16 = 0$
   b. $r = 2\sqrt{3}$
   $x^2 + y^2 = 2\sqrt{3}^2$
   $x^2 + y^2 = 12$ atau $x^2 + y^2 - 12 = 0$
   c. $r = \sqrt{13}$
   $x^2 + y^2 = \sqrt{13}^2$
   $x^2 + y^2 = \sqrt{169} = x^2 + y^2 = 13$ atau $x^2 + y^2 - 13 = 0$
   d. $r = 9$
   $x^2 + y^2 = 9^2$
   $x^2 + y^2 = 81$ atau $x^2 + y^2 - 81 = 0$

2. a. Dik P(2, -3)
   $r = 8$
   $(x-a)^2 + (y-b)^2 = r^2$
   $(x-2)^2 + (y-(-3))^2 = 8^2$
   $(x-2)^2 + (y+3)^2 = 64$
   b. $r = \sqrt{10}$
   $(x-2)^2 + (y-(-3))^2 = \sqrt{10}^2$
   $(x-2)^2 + (y+3)^2 = 10$

3. Dik P(2,10)
   a. (2,9)
   $(x-a)^2 + (y-b)^2 = r^2$
   $(2-2)^2 + (9-0)^2 = r^2$
   $0 + (9)^2 = r^2$
   $16 = r^2$
   $r = \sqrt{16}$: $r = 9$

II

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b. P(-1,-3)

$(-1-2)^2 + (-3-0)^2 = r^2$

$(-3)^2 + (-3)^2 = r^2$

$9 + 9 = r^2$

$18 = r^2$

$r^2 = \sqrt{18}$

$r = \sqrt{9 \times 2} = r = 3\sqrt{2}$

II 1.a. $x^2 + y^2 - 4x - 6y - 12 = 0$

$a = -2$

$b = -3$

$r = \sqrt{(-2)^2 + (-3)^2 - (-12)}$

$= \sqrt{4 + 9 + 12}$

$= \sqrt{25}$

$= 5$ Jadi, pusatnya $(2,3)$ $r = 5$

b. $(x-1)^2 + (y+5)^2 = 16$

Jadi, pusatnya $(1,5)$ $r = 4$

2.a. $x^2 + y^2 = 9$ melalui titik $(2,-5)$

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

$2x - 8y = 9$

b. $(x-9)^2 + (y-3)^2 = 36$ titik $(-2,1)$

Dik $a = 9$, $b = 3$ $x_1 = -2$ $y_1 = 1$

$(-2-9)(x-9) + (1-3)(y-3) = 6^2$

$(-6)(x-9) + (-2)(y-3) = 36$

$-6x + 29 - 2y + 6 = 36$

$-6x - 2y + 6 + 29 = 36$

$-6x - 2y + 6 + 29 - 36 = 0$

$-6x - 2y - 6 = 0$

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c. $x^2 + y^2 + 8x - 6y + 9 = 0$ titik $(-2, 5)$

Diket : $a = -8$ $b = 6$ $x_1 = (-2)$ $y_1 = (5)$

$x_1 \cdot x + y_1 \cdot y + \frac{1}{2} A(x_1 + x) + \frac{1}{2} B(y_1 + y) + C = r^2$

$-2 \cdot x + 5 \cdot y + \frac{1}{2}\overset{-4}{-8}(-2 + x) + \frac{1}{2}\overset{3}{6}(5 + y) + 9 = 0$

$-2x + 5y + 8 - 4x + 15 + 3y + 9 = 0$

$-2x - 4x + 5y + 3y + 8 + 15 + 9 = 0$

$-6x + 8y + 32 = 0$