

Tugas 1

Saturday, 04 September 2021 09.34

1 Pusat & jari-jari pers. lingkaran

$$x^2 + y^2 - 14x + 8y + 1 = 0$$

Caranya: Mencari

$$x^2 + y^2 - 14x + 8y + 1 = 0$$

$$x^2 + y^2 - 14x + 8y = -1$$

$$x^2 - 14x + y^2 + 8y = -1$$

$$x^2 - 14x + 49 + y^2 + 8y + 16 = -1 + 49 + 16$$

$$(x - 7)^2 + (y + 4)^2 = 64$$

$$\text{Titik Pusat} = (7, -4)$$

$$\text{Panjang jari-jari} = 8$$

2 Uang Investasi = Rp 75.000.000

bunga majemuk = 4,85% pertahun

Waktu tabung = t, hingga uang **lucrasi** mencapai
Rp 112.500.000

$$P = P_0 (1 + r)^t ; P = 112.500.000$$

$$r = 0,0485$$

$$P_0 = 75.000.000$$

$$t = ?$$

$$112.500.000 = 75.000.000 (1 + 0,0485)^t$$

$$\frac{15}{1125}$$

$$1.125$$

$$15$$

$$15$$

$$\frac{15}{1125} = 1,0485^t$$

$$1,5 = 1,0485^t$$

$$t = \frac{1,0485}{\log 1,5}$$

$$t \approx 8,5 \text{ tahun}$$

$$75 \sqrt[15]{1125}$$

$$\frac{15}{75}$$

Jadi waktu yang dibutuhkan kan adalah 8,5 tahun.

3 a) $\lim_{x \rightarrow -2} \frac{4-x^2}{2x^2+x^3}$

uji coba limit

$$\frac{4-4}{2(4)+(-8)} = \frac{0}{0}$$

$$\lim_{x \rightarrow -2} \frac{4-x^2}{2x^2+x^3} = \frac{-(x^2-4)}{x^2(2+x)} = \frac{-(x+2)(x-2)}{x^2(x+2)}$$

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

$$h) \lim_{x \rightarrow \infty} \left(\frac{4x^2 - 5x + 21}{7x^3 + 5x^2 - 10x + 1} \right)$$

$$= \lim_{x \rightarrow \infty} \frac{\cancel{x^3} \left(\frac{4}{x} - \frac{5}{x^2} + \frac{21}{x^3} \right)}{\cancel{x^3} \left(7 + \frac{5}{x} - \frac{10}{x^2} + \frac{1}{x^3} \right)}$$

$$= \frac{0}{7} = 0$$