

NAMA: FAIZ HIDAYAT

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KELAS : IF1A

1. UBAH MASING-MASING DESIMAL BERULANG MENJADI SUATU HASIL BAGI DUA BILANGAN BULAT:

a. 0,217171717...

$$\begin{aligned} x &= 0,2171717 \dots \\ 1000x &= 217,171717 \dots \\ 10x &= 2,171717 \dots \\ \hline 990x &= 215 \\ x &= \frac{215}{990} \\ x &= \frac{43}{198} \end{aligned}$$

b. 3,929292...

$$\begin{aligned} x &= 3,929292 \dots \\ .100x &= 392,9292 \dots \\ x &= 3,9292 \dots \\ \hline 99x &= 389 \\ x &= \frac{389}{99} \end{aligned}$$

2. CARILAH BILANGAN RASIONAL ANTARA $\frac{17}{37}$ DAN $\frac{52}{111}$

Samakan penyebut kedua bilangan tersebut

$$\begin{aligned} \frac{17 \times 3}{37 \times 3} &= \frac{51}{111} \\ \frac{52 \times 1}{111 \times 1} &= \frac{52}{111} \end{aligned}$$

Semua bilangan di kali 2

$$\begin{aligned} \frac{51 \times 2}{111 \times 2} &= \frac{102}{222} \\ \frac{52 \times 2}{111 \times 2} &= \frac{104}{222} \end{aligned}$$

Cari nilai tengah antara 2 bilangan

$$\frac{102}{222} \quad \boxed{\frac{103}{222}} \quad \frac{104}{222}$$

Jadi, bilangan rasional tersebut adalah $\frac{103}{222} = 0,46396396396$

3. GUNAKAN SIFAT-SIFAT MEDAN UNTUK MENYEDERHANAKAN BENTUK-BENTUK DI BAWAH INI:

a. $(2x - 3)^2$

$$\begin{aligned}(2x - 3)^2 &= (2x - 3)(2x - 3) \\ &= 4x^2 - 6x - 6x + 9 \\ &= 4x^2 - 12x + 9\end{aligned}$$

b. $\frac{2x-2x^2}{x^3-2x^2+x}$

$$\begin{aligned}\frac{2x - 2x^2}{x^3 - 2x^2 + x} &= \frac{x(2 - 2x)}{x(x^2 - 2x + 1)} \\ &= \frac{2 - 2x}{x^2 - 2x + 1} \\ &= \frac{2(1 - x)}{(x - 1)(x - 1)} \\ &= \frac{-2(\cancel{x-1})}{(x - 1)(\cancel{x-1})} \\ &= -\frac{2}{x - 1}\end{aligned}$$

c. $\frac{\frac{x}{x-3} - \frac{2}{x^2-4x+3}}{\frac{5}{x-1} + \frac{5}{x-3}}$

sederhanakan yang diatas atau pembilang

$$\begin{aligned}\frac{x}{x-3} - \frac{2}{x^2-4x+3} &= \frac{x}{x-3} - \frac{2}{(x-1)(x-3)} \\ &= \frac{x(x-1)}{(x-1)(x-3)} - \frac{2}{(x-1)(x-3)} \quad , \text{samakan penyebut} \\ &= \frac{x(x-1) - 2}{(x-1)(x-3)} \\ &= \frac{x^2 - x - 2}{x^2 - 4x + 3}\end{aligned}$$

Sederhanakan yang dibawah atau penyebut

$$\begin{aligned}\frac{5}{x-1} + \frac{5}{x-3} &= \frac{5(x-1)}{(x-1)(x-3)} + \frac{5(x-3)}{(x-1)(x-3)} \quad , \text{samakan penyebut} \\ &= \frac{5x - 5 + 5x - 15}{(x-1)(x-3)} \\ &= \frac{10x - 20}{x^2 - 4x + 3}\end{aligned}$$

$$\begin{aligned}\frac{\frac{x^2 - x - 2}{x^2 - 4x + 3}}{\frac{10x - 20}{x^2 - 4x + 3}} &= \frac{x^2 - x - 2}{10x - 20} \\ &= \frac{(x+1)(x-2)}{10(x-2)} \\ &= \frac{x+1}{10}\end{aligned}$$

4. TENTUKAN ANGKA PENTING PADA BILANGAN-BILANGAN DI BAWAH INI:

- a. 1379000 = 4 *angka penting*
- b. 143000,01 = 8 *angka penting*
- c. 0,000987 = 3 *angka penting*
- d. 0,10000000 = 1 *angka penting*
- e. 0,12000004 = 8 *angka penting*