

Nama = Chantika T.U

No = 09

Kelas = IX'G

UH MTK

1) Diket: 4 barang = 50.000

4 barang = 86.000

uang = 100.000

Ditanya: 5 barang berbeda

Jawab: $\begin{matrix} \text{O} & \text{O} & \text{O} & \text{O} & \text{O} \\ \text{50.000} & & & & \text{86.000} \end{matrix}$

$$50.000 = a + (a+b) + (a+2b) + (a+3b)$$

$$50.000 = 4a + 6b$$

$$86.000 = (a+3b) + (a+4b) + (a+5b) + (a+6b)$$

$$86.000 = 4a + 18b$$

$$\text{Eliminasi: } \begin{matrix} 4a + 18b = 86.000 \\ \underline{4a + 6b = 50.000} \end{matrix}$$

$$12b = 36.000$$

$$b = 3.000$$

$$b = 3.000$$

$$b = 3.000$$

$$4a + 6b = 50.000$$

$$4a + 6(3000) = 50.000$$

$$4a + 18.000 = 50.000$$

$$4a = 50.000 - 18.000$$

$$4a = 32.000$$

$$a = 8.000$$

$$a = 8.000$$

$$O_1 = a \rightarrow 8.000$$

$$O_2 = a + b$$

$$= 8000 + 3000 \rightarrow 11.000$$

$$O_3 = a + 2b$$

$$= 8000 + 2(3000)$$

$$= 8000 + 6000 \rightarrow 14.000$$

$$O_4 = a + 3b$$

$$= 8000 + 3(3000)$$

$$= 8000 + 9000$$

$$= 17.000$$

$$O_5 = a + 4b$$

$$= 8000 + 4(3000)$$

$$= 8000 + 12000$$

$$= 20.000$$

$$S = 100.000 - (8000 + \dots + 20.000)$$

$$= 100.000 - 70.000$$

$$= 30.000 \text{ (kembalian)}$$

2) Diket = 2, 5, 8, 11, 14 ... 41 (kiri)

1, 5, 9, 13, 17 ... 41 (kanan)

Ditanya: Berapa anak?

$$\text{Jawab: } U_n = a + (n-1)b$$

$$41 = 2 + (n-1)3$$

$$41 = 2 + 3n - 3$$

$$41 = -1 + 3n$$

$$41 + 1 = 3n$$

$$42 = 3n$$

$$\frac{42}{3} = n$$

$$14 = n$$

$$U_n = a + (n-1)b$$

$$41 = 1 + (n-1)4$$

$$41 = 1 + 4n - 4$$

$$41 = -3 + 4n$$

$$41 + 3 = 4n$$

$$44 = 4n$$

$$\frac{44}{4} = n$$

$$11 = n$$

$$\text{jml anak} = 14 - 1 + 11$$

$$= 13 + 11$$

$$= 24 \text{ anak}$$

3) Diket = kota A = 1600 ekor

b = 25 ekor

kota B = 500 ekor

b = 10 ekor

$$A_n = a + (n-1)b$$

$$A_n = 1600 + (n-1)25$$

$$A_n = 1600 + 25n - 25$$

$$A_n = 1575 + 25n$$

$$B_n = a + (n-1)b$$

$$B_n = 500 + (n-1)10$$

$$B_n = 500 + 10n - 10$$

$$B_n = 490 + 10n$$

$$A_n = 3B_n$$

$$1575 + 25n = 3(490 + 10n)$$

$$1575 + 25n = 1470 + 30n$$

$$1575 - 1470 = 30n - 25n$$

$$105 = 5n$$

$$\frac{105}{5} = n$$

$$\boxed{21 = n} \text{ bulan}$$

$$A = a + (n-1)b$$

$$= 1600 + (21-1)25$$

$$= 1600 + 20(25)$$

$$= 1600 + 500$$

$$= \boxed{2100 \text{ ekor sapi}}$$

4) Diket = 3 → 30 push up
10 → 400 push up

Ditanya = jmlh hari ke 10 ?

$$\text{jawab} = u_n = a + (n-1)b$$

$$30 = a + (3-1)b$$

$$\boxed{30 = a + 2b}$$

$$\boxed{a = 30 - 2b}$$

$$S_n = \frac{n}{2}(2a + (n-1)b)$$

$$S_n = \frac{n}{2}(2a + (n-1)b)$$

$$400 = \frac{10}{2}(2a + (10-1)b)$$

$$400 \cdot 2 = 10(2a + 9b)$$

$$800 = 20a + 9b$$

$$800 = 20a + 9b$$

$$800 = 20(30 - 2b) + 9b$$

$$800 = 600 - 40b + 9b$$

$$800 - 600 = 5b$$

$$200 = 5b$$

$$\frac{200}{5} = b$$

$$\boxed{40 = b}$$

$$a = 30 - 2b$$

$$a = 30 - 2(40)$$

$$a = 30 - 80$$

$$\boxed{a = -50}$$

$$u_{10} = a + (n-1)b$$

$$= 22 + (9)4$$

$$= 22 + 36$$

$$= \boxed{58}$$