

BAB 3

— " — Nomor 1 — " — " — " — " — " —

a. Banyak klip kertas : banyak pakupayung

$$= 2 \text{ buah} : 6 \text{ buah} = 2 : 6 //$$

b. $\frac{\text{Banyak klip kertas}}{\text{Banyak pakupayung}} = \frac{2}{6}$

c. $\frac{\text{Banyak klip kertas}}{\text{Banyak pakupayung}} = \frac{2:2}{6:2} = \frac{1}{3}$

d. B. klip kertas : B. Pakupayung

$$= 1 : 3 //$$

— " — Nomor 2 — " — " — " — " — " —

a. Banyak jeruk : Banyak mangga

a. jika Banyak mangga = $\frac{1}{2} \times$ banyak jeruk

$$\Rightarrow \text{Banyak jeruk} : \text{Banyak mangga}$$

$$= \text{Banyak jeruk} : \frac{1}{2} \text{ Banyak jeruk}$$

$$= 2 : 1 //$$

b. banyak jeruk 4 kali banyak mangga

$$\Rightarrow \text{Banyak jeruk} : \text{Banyak mangga}$$

$$= 4 \times \text{Banyak mangga} : \text{Banyak mangga}$$

$$= 4 : 1$$

c. setiap kali ada 2 mangga, ada 5 jeruk

$$\Rightarrow \text{Banyak jeruk} : \text{Banyak mangga}$$

$$= 5 \text{ buah} : 2 \text{ buah} = 5 : 2$$

— " — Nomor 3 — " — " — " — " — " —

Untuk persiapan ulang tahun. Terclapat.

• banyak topi = 15 buah.

• banyak balon = 36 buah

• banyak hadiah = 12 buah.

— " — Nomor 3 (Lanjutan) — " — " — " — " — " —

a. Banyak balon : banyak hadiah

$$= 36 \text{ buah} : 12 \text{ buah} = 36 : 12 = 3 : 1 //$$

b. Banyak hadiah : banyak topi

$$= 12 \text{ buah} : 15 \text{ buah} = 12 : 15 = 4 : 5 //$$

c. Banyak topi : banyak balon

$$= 15 \text{ buah} : 36 \text{ buah} = 15 : 36 = 5 : 12 //$$

— " — Nomor 4 — " — " — " — " — " —

Jumlah peserta perlombaan sepeda (T) adalah 80 orang, yang berhasil (B), dan

yang gagal (G) menyelesaikan

perlombaan sebanyak 64 dan 16 orang

T = 80 orang, B = 64 orang, G = 16 orang

a. B : T = 64 orang : 80 orang

$$= 64 : 80$$

b. G : T = 16 orang : 80 orang = 16 : 80

c. B : G = 64 orang : 16 orang = 64 : 16

— " — Nomor 5 — " — " — " — " — " —

a. $[20 : 15] \div 5 = 4 : 3 //$

b. $[\frac{1}{2} : 5] \times 2 = 1 : 10 //$

c. $[\frac{1}{5} : \frac{6}{20}] \times 10 = \frac{10}{5} : \frac{6 \times 10}{20} = 2 : 3 //$

d. $[\frac{3}{2} : \frac{4}{7}] \times 14 = \frac{3 \times 7}{2} : \frac{4 \times 7}{7} = 21 : 8 //$

UJI PEMAHAMAN HAL 93

— 1 — Nomor 1. — — — — —

• Panjang = 40 cm, lebar = 25 cm.

a. Panjang : lebar = 40cm : 25cm = 40 : 25

b. Keliling = $2 \times \text{panjang} + 2 \times \text{lebar}$

$$= 2 \times 40 \text{ cm} + 2 \times 25 \text{ cm}$$

$$= 80 \text{ cm} + 50 \text{ cm} = 130 \text{ cm}$$

- Panjang : lebar : keliling

$$= 40 \text{ cm} : 25 \text{ cm} : 130 \text{ cm}$$

$$= 40 : 25 : 130$$

— Nomor 2 —

$$a:b = 1:3 = [1:3] \times 3 = \underline{3:9}$$

$$a:c = 3:1$$

$$a. a:b:c = 3:9:1 \quad b. b:c = 9:1 //$$

— 1 — Nomor. 3 — 4 — 5 — 6 — 7 — 8 —

Banyak pohon Total = T

Banyak pohon rambutan: $R = \frac{5}{9} T$.

Banyak pohon mangga = $M = \frac{1}{4}T = \frac{2}{5}T$

Banyak pohon jeruk = $J = \left[1 - \left(\frac{5}{6} + \frac{1}{4}\right)\right]^T$
 $= \left[1 - \frac{7}{6}\right]^T = \frac{1}{6}^T$

$$a. R: \tau = \left[\frac{5}{\theta} T + \frac{2}{\theta} T \right] \times \frac{\theta}{T} = 5:2 //$$

$$b. R:M:J = \left[\frac{5}{8}T : \frac{2}{8}T : \frac{1}{8}T \right] \times \frac{8}{T}$$

$$= 5:2:1 //$$

— 11 — Nomor 4 — 11 — 11 — 11 — 11 —

Harga baju A = $H_A = \frac{3}{5} H_B = \frac{3}{5} H_B$

Harga baju B = $H_B = 1 \cdot H_B = \frac{5}{3} H_B$

Harga baju C = $H_c = 1\frac{1}{4} H_B = \frac{5}{4} H_B$.

Halaman: 2/13

— 11 — Nomor 4 (Lanjutan) — 11 — 11 —

$$H_A : H_B : H_C = \left[\frac{3}{5} H_B : 1 \cdot H_B : \frac{5}{4} H_B \right]$$

$\times 20/43.$

$$= (2 : 20 : 25) //$$

— 4 — Nomor 5 —

$$\text{Berat gula} = B_g = 2 B_k$$

$$\text{Berat kopi} = B_k = 1 \cdot B_k$$

$$\text{Berat krimer} = B_r = \frac{2}{3} B_k.$$

$$a. B_{\alpha} = B_r = \left[2 \cdot B_k : \frac{2}{3} B_k \right] \times \frac{3}{B_k}$$

$$= 6 : 2 = 3 : 1 //$$

$$b. B_k: B_G: B_r = \left[B_k: 2B_k: \frac{2}{3}B_k \right] \times \frac{3}{B_k}$$

$$= 3:6:2$$

— " — Nomor 1 — " — " — " — " —

Tinggi buku I = $T_1 = 20 \text{ cm}$.

Tinggi buku II = $T_2 = 13 \text{ cm}$.

$$T_1 : T_2 = 20 \text{ cm} : 13 \text{ cm} = 20 : 13 //$$

— " — Nomor 2 — " — " — " — " —

$$\begin{aligned} \text{Berat ibu} = B_i &= \frac{1}{2} \text{ kuintal} = \frac{1}{2} \times 100 \text{ kg} \\ &= 50 \text{ kg.} \end{aligned}$$

$$\text{Berat anak} = B_a = 37 \text{ kg.}$$

$$B_i : B_a = 50 \text{ kg} : 37 \text{ kg} = 50 : 37 //$$

— " — Nomor 3 — " — " — " — " —

$$\begin{aligned} \text{a. } 25 \text{ cm} : 1 \text{ meter} &= 25 \text{ cm} : 100 \text{ cm} \\ &= [25 : 100] \div 25 \\ &= 1 : 4. // \end{aligned}$$

$$\begin{aligned} \text{b. } 20 \text{ menit} : 1 \text{ jam} &= 20 \text{ menit} : 60 \text{ menit} \\ &= [20 : 60] \div 20 = 1 : 3 // \end{aligned}$$

$$\begin{aligned} \text{c. } 300 \text{ gram} : 1 \text{ kg} &= 300 \text{ gram} : 1000 \text{ gram} \\ &= [300 : 1000] \div 100 = 3 : 10 // \end{aligned}$$

$$\begin{aligned} \text{d. } \text{Rp } 200.000 : \text{Rp } 20.000.000 \\ &= [200.000 : 20.000.000] \div 200.000 \\ &= 1 : 100 // \end{aligned}$$

— " — Nomor 4 — " — " — " — " —

Ukuran persegi panjang $p = 30 \text{ cm}$, $l = 20 \text{ cm}$.

$$\text{a. } p : l = 30 \text{ cm} : 20 \text{ cm} = 30 : 20 = 3 : 2 //$$

$$\begin{aligned} \text{b. } \text{keliling} = k &= 2 \times p + 2 \times l = \\ &= 2 \times 30 \text{ cm} + 2 \times 20 \text{ cm} \\ &= 60 \text{ cm} + 40 \text{ cm} = 100 \text{ cm.} \end{aligned}$$

$$p : k = 30 \text{ cm} : 100 \text{ cm} = 30 : 100 = 3 : 10 //$$

$$\text{c. } l : k = 20 \text{ cm} : 100 \text{ cm} = 20 : 100 = 2 : 10 //$$

$$\text{d. } p : l : k = 30 : 20 : 100 = 3 : 2 : 10 //$$

— " — Nomor 5 — " — " — " — " —

Panjang suatu persegi panjang = $p = 6 \text{ cm}$.

Lebar suatu persegi panjang = $l = 35 \text{ cm}$.

$$\text{a. } p : l = 6 \text{ cm} : 35 \text{ cm} = 6 : 35 //$$

$$\text{b. } \text{keliling} = k = 2(p + l) = 2(41 \text{ cm}) = 82 \text{ cm.}$$

$$p : l : k = 6 \text{ cm} : 35 \text{ cm} : 82 \text{ cm} = 6 : 35 : 82 //$$

— " — Nomor 1 — " — " — " — " — " —

Banyak sawo (A) : banyak sirsak (I) :

banyak srikaya (R) = 2 : 4 : 5

⇒ Banyak sawo = A = 4 buah.

$$A : I : R = [2 : 4 : 5] \times 2$$

$$= 4 : 8 : 10$$

$$= 4 \text{ buah} : 8 \text{ buah} : 10 \text{ buah}$$

⇒ I = 8 buah, R = 10 buah //

— " — Nomor 2 — " — " — " — " — " —

Berat 1 kelinci : berat 1 tikus

$$= 14 : 3 = \frac{14}{3}$$

Berat 1 kelinci = $\frac{14}{3}$ Berat 1 tikus

Berat 10 kelinci = 10 x Berat 1 ~~tikus~~ ^{kelinci}

Berat 10 tikus = 10 x Berat 1 tikus

⇒ Berat 1 tikus = $\frac{3}{14}$ Berat 1 kelinci

$$= \frac{3}{14} \times \frac{1}{10} \text{ Berat 10 kelinci}$$

$$= \frac{3}{140} \times 225 = \frac{3}{28} \times 45$$

$$= \frac{135}{28} = 4 \frac{23}{28} \text{ kg //$$

— " — Nomor 3 — " — " — " — " — " —

Jumlah siswa kelas VII : L

Jumlah siswa kelas VIII : P

$$L_A : P_A = 12 : 15, L_B : P_B = 8 : 6$$

$$= 4 : 5$$

$$= 4 : 3$$

$$L_C : P_C = 4 : 5 \text{ orang} = 4 : 5$$

$$a. L_A : P_A = L_C : P_C = 4 : 5$$

b.

— " — Nomor 3 (Lanjutan) — " — " — " — " —

$$b. L_A + L_B = 12 + 8 = 20 \text{ orang}$$

$$P_A + P_B = 15 + 8 = 23 \text{ orang}$$

$$(L_A + L_B) : (P_A + P_B) = 20 \text{ orang} : 23 \text{ orang} \\ = 20 : 23 //$$

— " — Nomor 4 — " — " — " — " — " —

Perpindahan

Perubahan ketinggian

$$x_s \begin{pmatrix} 100 \text{ m} \\ 500 \text{ m} \end{pmatrix}$$

$$\begin{pmatrix} 2 \text{ m} \\ 10 \text{ m} \end{pmatrix} \times s //$$

— " — Nomor 5 — " — " — " — " — " —

Tinggi Amir = 160 cm = AB

panjang bayangan Amir = 210 cm = BC

panjang bayangan bendera = 9,5 m = YZ

a. Berdasarkan gambar di halaman 173. no. 5. segitiga-segitiga yang sebangun adalah $\triangle ABC$ dan $\triangle XYZ //$

$$b. AC : XZ = AB : XY = BC : YZ //$$

$$\frac{XY}{AB} = \frac{YZ}{BC} \Rightarrow XY = \frac{YZ \cdot AB}{BC} = \frac{9,5 \text{ m} \cdot 160 \text{ cm}}{210 \text{ cm}}$$

$$XY = \frac{9,5 \text{ m} \cdot 4 \cdot 42}{5 \cdot 42} = 1,9 \cdot 4 \text{ m} = 7,6 \text{ m} //$$

$$\therefore \text{Tinggi bendera} = XY = 7,6 \text{ m} //$$

UJI PEMAHAMAN HAL 104

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— " — Nomor 1 — " — " — " — " — " —

Jumlah anak Waktu persiapan
 $\begin{matrix} 30 \text{ anak} \\ \times \frac{4}{3} \\ \hline 40 \text{ anak} \end{matrix}$ $\begin{matrix} 22 \text{ hari} \\ 22 \times \frac{3}{4} \text{ hari} \\ \hline = 16,5 \text{ hari} \\ = 16 \text{ hari } 12 \text{ jam} \end{matrix}$ $\times \frac{3}{4}$

— " — Nomor 2 — " — " — " — " — " —

Jumlah Pekerja Waktu Lama Perbaikan
 9 orang 10 hari
 6 orang x.

$$9:6 = \frac{1}{10} = \frac{1}{x} \Leftrightarrow \frac{x}{10} = \frac{\frac{3}{2}}{\frac{5}{2}} \Leftrightarrow x = \frac{3}{2} \cdot \frac{5}{2} = 15$$

x = 15 hari

— " — Nomor 3 — " — " — " — " — " —

Jumlah keran Waktu Pengisian
 11 buah 3 jam.
 6 buah x.

$$\Rightarrow 11:6 = \frac{1}{3} = \frac{1}{x} = \frac{1}{3} \times \frac{x}{1}$$

$$\Leftrightarrow \frac{11}{6} = \frac{x}{3} \Leftrightarrow x = \frac{11 \cdot 3}{6} = 5,5 \text{ jam.}$$

x = 5 jam 30 menit

— " — Nomor 4 — " — " — " — " — " —

Jumlah sapi Waktu Penghabisan
 24 ekor 6 hari
 18 ekor x.

$$24:18 = \frac{1}{6} = \frac{1}{x} \Leftrightarrow \frac{24}{18} = \frac{1}{6} \times \frac{x}{1} = \frac{x}{6}$$

$$\Leftrightarrow x = \frac{24 \cdot 6}{18} = 8 \text{ hari} //$$

— " — Nomor 5 — " — " — " — " — " —

1 kolam = 60 ember.

Jumlah Waktu kecepatan
 A: 60 ember 120 menit 2 ember/4 menit
 B: 60 ember 240 menit 1 ember/4 menit
 A = Amir, B = Adik Amir. Berbanding terbalik.

A x B x.
 B 240 menit 1 ember/4 menit

$$x:240 \text{ menit} = \frac{1}{3} = \frac{1}{1}$$

$$\frac{x}{240 \text{ menit}} = \frac{1}{3}$$

$$\Leftrightarrow x = \frac{1}{3} \cdot 240 \text{ menit} = 80 \text{ menit} //$$

UJI PEMAHAMAN HAL 107

—||— Nomor 1 —||—||—||—||—||—||—||—||—||—

Skala peta = 1 : 600

panjang lapangan pada peta = $P_{\text{peta}} = 15 \text{ cm}$

lebar lapangan pada peta = $l_{\text{peta}} = 8 \text{ cm}$

a. Ukuran lapangan asli

$$\begin{aligned} \text{panjang lapangan asli} &= P_{\text{asli}} = 600 \times 15 \text{ cm} \\ &= 9000 \text{ cm} \\ &= 90 \text{ m} \end{aligned}$$

lebar lapangan asli

$$= l_{\text{asli}} = 600 \times 8 = 4800 \text{ cm} = 48 \text{ m} //$$

b. Luas lapangan pada peta

= Luas lapangan asli

$$= P_{\text{peta}} \times l_{\text{peta}} = P_{\text{asli}} \times l_{\text{asli}}$$

$$= 15 \text{ cm} \times 8 \text{ cm} = 90 \text{ m} \times 48 \text{ m}$$

$$= \frac{15 \times 8 \text{ cm}^2}{600 \times 600 \times 100 \times 100 \text{ cm}^2} = \frac{1}{360000}$$

$$= 1 : 360000 //$$

—||— Nomor 2 —||—||—||—||—||—||—||—||—||—

Panjang sebenarnya panjang pada peta.

$$\begin{array}{ccc} 5 \text{ km} & & 2 \text{ cm} \\ \swarrow & & \searrow \\ 4 \text{ km} & & x \end{array}$$

$$\frac{x}{2 \text{ cm}} = \frac{4 \text{ km}}{5 \text{ km}} \Leftrightarrow x = \frac{4}{5} \times 2 \text{ cm} = 1,6 \text{ cm}$$

—||— Nomor 3 —||—||—||—||—||—||—||—||—||—

gambar asli

$$\begin{array}{ccc} \text{lampu jalan} & \text{vs} & 0,5 \text{ cm} \\ & & \downarrow \times 5 \\ \text{gedung} & & 2,5 \text{ cm} \end{array} \quad \begin{array}{ccc} & & 3 \text{ m} \\ & & \downarrow \times 5 \\ & & 15 \text{ m} // \end{array}$$

Halaman : 6/13

—||— Nomor 4 —||—||—||—||—||—||—||—||—||—

$10.000 \text{ m}^2 = \text{Luas sebenarnya}$

$$s \cdot s = (100 \text{ m})^2$$

$$s \cdot s = 100 \text{ m}$$

$$s \text{ pada peta} = \left(\frac{1}{100} \right) \cdot 100 \text{ m} = 1 \text{ m}$$

$$\begin{aligned} \Rightarrow \text{Luas pada peta} &= (s \text{ pada peta})^2 \\ &= 1 \text{ m}^2 // \end{aligned}$$

—||— Nomor 5 —||—||—||—||—||—||—||—||—||—

sisi pada gambar : sisi asli = 1 kotak : 1 meter

= 1 kotak : 1 meter

a. Panjang laboratorium biologi di gambar

= 8 kotak

$$\Rightarrow \text{panjang laboratorium biologi asli} = 8 \text{ m} //$$

b. lebar laboratorium biologi di gambar

= 6 kotak

$$\Rightarrow \text{lebar laboratorium biologi asli} = 6 \text{ m} //$$

c. ukuran kelas A di gambar :

= 8 kotak x 7 kotak

$$\Rightarrow \text{Ukuran kelas A asli} = 8 \text{ m} \times 7 \text{ m} //$$

d. Ukuran kelas B di gambar :

= 9 kotak x 8 kotak

$$\Rightarrow \text{Ukuran kelas B asli} = 9 \text{ m} \times 8 \text{ m} //$$

e. Ukuran kelas C di gambar :

= 9 kotak x 7 kotak

$$\Rightarrow \text{Ukuran kelas C asli} = 9 \text{ m} \times 7 \text{ m} //$$

f. Ruang terkecil berada di antara kelas A, ruang guru, dan labo fisika.

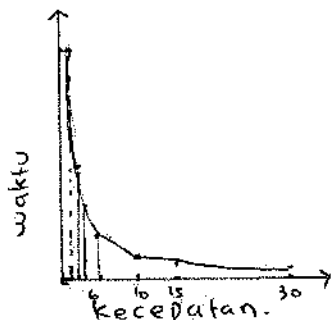
$$\begin{aligned} \Rightarrow \text{keliling ruang terkecil} &= 2(3+4) \text{ kotak} \\ \text{pada gambar} &= 14 \text{ kotak} \end{aligned}$$

$$\Rightarrow \text{keliling ruang terkecil asli} = 14 \text{ m} //$$

Nomor 1

Panjang lintasan = 30 km
kecepatan (km/jam), waktu (jam)

Kecepatan	1	2	3	5	6	10	15	30
Waktu	30	15	10	6	5	3	2	1

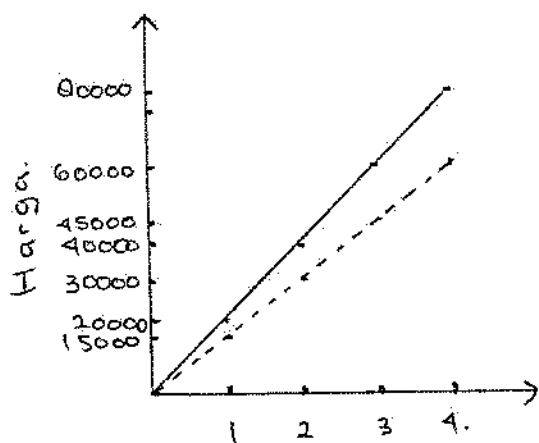


Nomor 2

Banyak anak	10	15	20	25	30
Banyak hari	20	$\frac{40}{3}$	10	8	$\frac{20}{3}$

Nomor 3

Banyak bagian	1	2	3	4
Total harga paha ayam	15000	30000	45k	60k
Total harga dada ayam	20000	40k	60k	80k



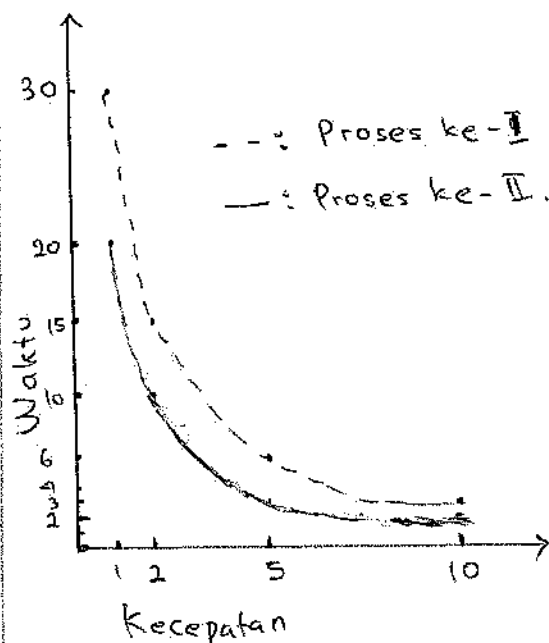
— : total harga dada ayam

-- : total harga paha ayam

Nomor 4

Panjang lintasan I = 30 km
Panjang lintasan II = 20 km
kecepatan (km/jam), waktu (jam)

Kecepatan	1	2	5	10
Waktu I	30	15	6	3
Waktu II	20	10	4	2



Nomor 5

$$x:y = p:q \Leftrightarrow \frac{x}{y} = \frac{p}{q}$$

a. $\frac{x}{y} = \frac{p}{q} \Leftrightarrow xq = py \Leftrightarrow \frac{q}{y} = \frac{p}{x} \Leftrightarrow q:y = p:x$

b. $\frac{x}{y} = \frac{p}{q} \Leftrightarrow \frac{x}{y} = \frac{1}{\frac{q}{p}} \Leftrightarrow x:y = \frac{1}{\frac{q}{p}} = \frac{p}{q}$

c. $x:y = p:q \Leftrightarrow x = ap, y = aq, a \neq 0$

d. $\frac{x}{y} = \frac{p}{q} \Leftrightarrow \frac{x \cdot a}{y \cdot a} = \frac{p \cdot b}{q \cdot b} \Leftrightarrow ax:ay = bp:bq, a \neq 0, b \neq 0$

e. mis. $x = kp, y = kq, k \neq 0, k \neq 1$
 $\Rightarrow (x-p):(y-q) = (kp-p):(kq-q)$
 $= (k-1)p:(k-1)q = p:q //$

f. $\frac{x-p}{y-p} = \frac{p}{q} \Leftrightarrow \frac{x+p}{y+p} = \frac{p}{q}$

$\Rightarrow \frac{x+p}{y-p} = \frac{x+p}{y+p} \Leftrightarrow \frac{x+p}{x-p} = \frac{y+p}{y-p} //$

Nomor 1

L berbanding lurus terhadap t .

$$\Rightarrow L = k \cdot t, k \neq 0.$$

$$\Rightarrow t = 1 \text{ cm}, L = 8 \text{ cm}^2.$$

$$\Rightarrow k = \frac{L}{t} = \frac{8 \text{ cm}^2}{1 \text{ cm}} = 8 \text{ cm}.$$

$$\Rightarrow t = 2 \text{ cm} \Rightarrow L = (8 \text{ cm}) \cdot 2 \text{ cm} = 16 \text{ cm}^2 //$$

Nomor 2

V berbanding lurus terhadap h .

$$a. V = k \cdot h, k \neq 0 //$$

$$b. h = 1 \text{ cm}, V = 5 \text{ cm}^3 \Rightarrow k = \frac{5 \text{ cm}^3}{1 \text{ cm}} = 5 \text{ cm}^2.$$

$$h = 5 \text{ cm} \Rightarrow V = (5 \text{ cm}^2)(5 \text{ cm}) = 25 \text{ cm}^3 //$$

$$c. h = \frac{1}{2} \text{ cm} \Rightarrow V = (5 \text{ cm}^2)\left(\frac{1}{2} \text{ cm}\right) = 2,5 \text{ cm}^3 //$$

Nomor 3

t berbanding terbalik dengan v

$$a. t = k \cdot \frac{1}{v}, k \neq 0 //$$

$$b. V = 60 \text{ km/jam} = 60 \text{ km}/60 \text{ menit} = 1 \text{ km}/\text{menit}$$

$$t = 25 \text{ menit}$$

$$\Rightarrow k = v \cdot t = (1 \text{ km}/\text{menit}) \cdot 25 \text{ menit} = 25 \text{ km}.$$

$$\Rightarrow v = 90 \text{ km/jam}$$

$$\Rightarrow t = 25 \text{ km} \times \frac{1}{90 \text{ km/jam}} = \frac{25 \text{ jam}}{90}$$

$$= \frac{25 \times 60^2 \text{ menit}}{3 \cdot 90} = \frac{50}{3} \text{ menit}$$

$$= 12 \text{ menit} + \frac{2}{3} \text{ menit}$$

$$= 12 \text{ menit } 40 \text{ detik} //$$

Nomor 4

z berbanding lurus dengan x

dan berbanding terbalik dengan y^2 .

$$\Rightarrow z = k \cdot x_0 \cdot \frac{1}{y_0^2}$$

a. Jika x menjadi 2 kali lipat, y tetap

$$\Rightarrow z_1 = k \cdot 2x_0 \cdot \frac{1}{y_0^2} = 2k \cdot x_0 \cdot \frac{1}{y_0^2} = 2 \cdot z_0.$$

\therefore membesar sebesar 2 kali lipat.

$$b. x_2 = 2x_0, y_2 = 3y_0.$$

$$\Rightarrow z_2 = k \cdot 2x_0 \cdot \frac{1}{(3y_0)^2} = \frac{2}{9} k x_0 \cdot \frac{1}{y_0^2} = \frac{2}{9} z_0$$

\therefore mengecil sebesar $\frac{2}{9}$ kali lipat //

Nomor 5

$$R_1 = 10 R_2, A_1 : A_2 = 4 : 3, l_1 = 10 \text{ m}.$$

$$x \frac{l_1}{A_1} = 10 \times \frac{l_2}{A_2} \Leftrightarrow l_2 = \frac{A_2}{A_1} \cdot \frac{l_1}{10}$$

$$l_2 = \frac{3}{4} \cdot \frac{10 \text{ m}}{10} = 0,75 \text{ m} //$$

$\circ R$ dan l berbanding lurus

$\circ R$ dan A berbanding terbalik //

LATIHAN SOAL AKHIR BAB 3

Halaman: 9/13.

Nomor 1

Pernyataan yang tidak termasuk permasalahan perbandingan terbalik nilai

= Pernyataan yang termasuk permasalahan perbandingan lurus nilai adalah

(D) Irama menginap di hotel dengan besar biayanya

Nomor 2

Perbandingan kelereng Dito (D) dan Adul (A) adalah $9:5$, $D-A=28$.

$$\Rightarrow D:A = 9:5 \Rightarrow D-A = D+A = (9-5):(9+5)$$

$$\Leftrightarrow (D-A):(D+A) = 4:14 = 28:(14 \times 2)$$

$$= 28:98 \Rightarrow D+A = 98 \text{ (D)}$$

Nomor 3

Jumlah tamu waktu persediaan
40 orang 15 hari
40+20=60 orang x

Perbandingan terbalik

$$\Rightarrow 40:60 = \frac{1}{15} = \frac{1}{x} \Leftrightarrow \frac{40}{60} = \frac{1}{15} \times \frac{x}{1}$$

$$\Leftrightarrow x = \frac{40 \cdot 15}{60} = 10 \text{ hari (B)}$$

Nomor 4

kecepatan waktu tempuh
70 km/jam 4 jam
60 km/jam x

Perbandingan terbalik

$$70 \text{ km/jam} \cdot 4 \text{ jam} = 60 \text{ km/jam} \cdot x$$

$$x = \frac{70 \cdot 4}{60} = \frac{14}{3} \text{ jam} = 4 \text{ jam } 40 \text{ menit}$$

\Rightarrow Waktu tempuh akan bertambah 40 menit

Nomor 5

Jarak waktu kecepatan sama
175 km 2,5 jam
x 8 jam \Rightarrow Perbandingan senilai

$$\Rightarrow \frac{x}{175 \text{ km}} = \frac{2,5 \text{ jam}}{8 \text{ jam}} \Leftrightarrow x = \frac{8 \cdot 175}{2,5} \text{ km}$$

$$\Leftrightarrow x = \frac{80 \cdot 175}{25} = 560 \text{ km (B)}$$

Nomor 6

Jumlah kaos	waktu kerja	kecepatan kerja sama
60 potong	3 hari	\Rightarrow Perbandingan
x	2 minggu = 14 hari	senilai

$$\Rightarrow \frac{x}{60 \text{ potong}} = \frac{14 \text{ hari}}{3 \text{ hari}}$$

$$\Leftrightarrow x = \frac{14 \cdot 60}{3} = 280 \text{ potong (D)}$$

Nomor 7

Jumlah beras (J) yang dibutuhkan berbanding lurus dengan jumlah orang (o) dan waktu (t)

$$\Rightarrow J = \frac{k \cdot o \cdot t}{1}$$

Dik: $J_0 = 80$, $o_0 = 20$, $t_0 = 12$

$$\Rightarrow k = \frac{80 \cdot 12}{20} = \frac{1}{3} \Rightarrow J = \frac{1}{3} \cdot o \cdot t$$

$$\Rightarrow o_1 = 15 \text{ orang}, t_1 = 10 \text{ hari}$$

$$\Rightarrow J_1 = \frac{1}{3} \cdot 15 \cdot 10 = 50 \text{ kg (B)}$$

Nomor 8

Jarak waktu kecepatan sama
108 km 1,5 jam
x 6 jam \Rightarrow berbanding lurus

$$\Rightarrow \frac{x}{108} = \frac{1,5}{6} \Leftrightarrow x = 4 \cdot 108 = 432 \text{ km (D)}$$

LATIHAN SOAL AKHIR BAB 3

Halaman: 10/13.

— Nomor 9 —

Waktu	Pekerja	Suatu proyek → konstan
132 hari	72 orang	Perbandingan terbalik.
x.	(72+24) orang = 96 orang	

$$\Rightarrow x \cdot 96 = 132 \cdot 72$$

$$\Leftrightarrow x = \frac{132 \cdot 72}{96} = 99 \text{ hari (A)}$$

— Nomor 10 —

Waktu	Pekerja	Perhatikan
72 hari	24 orang	x
(72-30) hari = 42 hari	24 orang	✓
36 hari	x	✓

$$\Rightarrow 36 \cdot x = 42 \cdot 24$$

Dibutuhkan tambahan

$$\Leftrightarrow x = \frac{42 \cdot 24}{36} = 28 \text{ orang} \Rightarrow (28-24) \text{ orang} = 4 \text{ orang (C)}$$

— Nomor 11 —

Jumlah Penghuni	Waktu Penghabisan	Jumlah Persediaan sama
20 orang	15 hari	Perbandingan terbalik.
(20+5) orang = 25 orang	x.	

$$25 \cdot x = 20 \cdot 15$$

$$\Leftrightarrow x = \frac{20 \cdot 15}{25} = 12 \text{ hari (C)}$$

— Nomor 12 —

Jumlah persediaan makanan sama.

Semakin banyak anggota semakin berkurang (PT).

semakin banyak semakin berkurang.

Jumlah porsi habis makanan (PT).

semakin banyak semakin berkurang (PT).

* PT: Perbandingan terbalik

— Nomor 12 (Lanjutan) —

$$J = J$$

$$40 \text{ orang} \cdot 10 \text{ hari} \cdot 3 \text{ kali sehari}$$

$$= (40+20) \text{ orang} \cdot x \cdot 2 \text{ kali sehari}$$

$$\Rightarrow x = \frac{40 \cdot 10 \cdot 3}{60 \cdot 2} = 10 \text{ hari (C)}$$

— Nomor 13 —

Jarak	kecepatan	waktu
1,2 km	80 km/jam	1,2/80
waktu	kecepatan	landasan Jarak.
1,2 jam	80 km/jam	
60 menit	x	

$$\Rightarrow 60 \cdot x = (1,2 \cdot 60) \cdot 80$$

$$\Leftrightarrow x = 96 \text{ km/jam (A)}$$

— Nomor 14 —

Kecepatan Pengerjaan	waktu Pengerjaan	Jumlah Pekerja
1 Pekerja/30 hari	30 hari	1 Pekerja
1 Pekerja/20 hari	20 hari	1 Pekerja
$\frac{2}{60} + \frac{3}{60}$ = 5 Pekerja/60 hari	x.	1 Pekerja

$$\Rightarrow \frac{5}{60} \cdot x = \frac{1}{20} \cdot 20$$

$$\Leftrightarrow x = 12 \text{ hari (C)}$$

* z = Pak Zulkafli, s = Pak Suhlan

— Nomor 15 —

$$\text{Jarak sebenarnya} = 7,5 \text{ km} = 7,5 \cdot 10^5 \text{ cm}$$

$$\text{Jarak pada peta} = 50 \text{ cm}$$

$$\Rightarrow \text{skala} = J.P. \text{ Peta} : J. \text{ Sebenarnya}$$

$$= 50 : 7,5 \cdot 10^5 = 50 : 60 \cdot 7,5 \cdot 10^3$$

$$= 1 : 2 \cdot 7,5 \cdot 10^3 = 1 : 15000 \text{ (A)}$$

LATIHAN SOAL AKHIR BAB 3

— 11 — Nomor 16 — 11 — 11 — 11 — 11 —

Skala = $1 : 10.000$, Jarak asli = 500 m

$$\text{Jarak di gambar} = \frac{1}{10.000} \cdot 500 \cdot 10^2 \text{ cm} \\ = 5 \text{ cm (C) //}$$

— 11 — Nomor 17 — 11 — 11 — 11 — 11 —

Ukuran denah lapangan = $15 \text{ cm} \times 9 \text{ cm}$.

$$\Rightarrow \text{keliling lapangan di denah} = 2(15 + 9) \\ = 48 \text{ cm.}$$

\Rightarrow keliling lapangan asli = 240 m .

$$\Rightarrow \text{skala} = \frac{240 \text{ m}}{48 \text{ cm}} = \frac{240 \cdot 10^2 \text{ cm}}{48}$$

$$= 2 : 1000 = 1 : 500$$

$$\Rightarrow \text{Ukuran denah asli} = (15 \cdot 500) \text{ cm} \times (9 \cdot 500) \text{ cm} \\ = 75 \cdot 10^2 \text{ cm} \times 45 \cdot 10^2 \text{ cm} \\ = 75 \text{ m} \times 45 \text{ m (B) //}$$

— 11 — Nomor 18 — 11 — 11 — 11 — 11 —

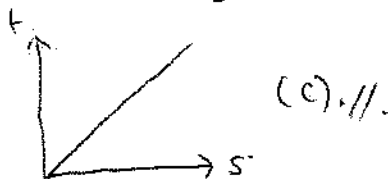
$$\text{skala} = 1 : 25 \Rightarrow \frac{\text{Luas digambar}}{\text{Luas asli}} = \left[\frac{1}{25} \right]^2$$

$$\text{Luas asli} = 36 \text{ cm}^2$$

$$\Rightarrow \text{Luas asli} = 25^2 \cdot 36 \text{ cm}^2 = 25 \cdot 25 \cdot 4 \cdot 9 \\ = 25 \cdot 9 \cdot 100 \text{ cm}^2 \\ = 22500 \text{ cm}^2 = 2 \\ = 22500 \cdot (10^{-2})^2 \cdot \text{m}^2 \\ = 2,25 \text{ m}^2 \text{ (A) //}$$

— 11 — Nomor 19 — 11 — 11 — 11 — 11 —

karena jarak dan waktu berbanding lurus \Rightarrow grafik antara jarak dan waktu adalah sebagai berikut.



Halaman: 11 / 13.

— 11 — Nomor 20 — 11 — 11 — 11 — 11 —

Panjang awal bayi = 49 cm .

Pertambahan^{panjang} bayi sebanding (berbanding lurus) dengan usia bayi.

Usia Pertambahan

0 0

1 2,5

2 5

x $\frac{5}{2}x$

\Rightarrow Panjang bayi pada x bulan (y) adalah

panjang awal + Pertambahan panjang

$$\Rightarrow y = 49 + 2,5x = 2,5x + 49 \text{ (C) //}$$

SOAL URAIAN BAB 3

— Nomor 1 —

Jumlah uang Hetty (H), jumlah uang Agif (A).

$$\Rightarrow \frac{H_0}{A_0} = \frac{2}{1}, H_1 = H_0 - 100.000, A_1 = A_0 + 100.000.$$

$$\Rightarrow \frac{H_1}{A_1} = \frac{1}{3}.$$

$$\Rightarrow \frac{H_0}{A_0} = \frac{2}{1} \Leftrightarrow H_0 = 2A_0.$$

$$\Rightarrow \frac{H_1}{A_1} = \frac{1}{3} \Leftrightarrow \frac{H_0 - 100.000}{A_0 + 100.000} = \frac{1}{3}.$$

$$\Leftrightarrow \frac{2A_0 - 100.000}{A_0 + 100.000} = \frac{1}{3}$$

$$\Leftrightarrow 6A_0 - 300.000 = A_0 + 100.000.$$

$$\Leftrightarrow 5A_0 = 400.000 \Leftrightarrow A_0 = 80.000.$$

$$\Rightarrow H_0 = 2(80.000)$$

$$H_0 = 160.000 //.$$

— Nomor 3 —

Jumlah anak	Jumlah batang coklat	Jumlah hadiah
9 orang	8 batang.	1 paket
6 orang	x	1 pak.

Perbandingan terbalik.

$$\Rightarrow 6 \cdot x = 9 \cdot 8.$$

$$x = \frac{9 \cdot 8}{6} = 12 \text{ batang coklat} //$$

— Nomor 2 —

Jarak	Bensin
102 km	32 liter
x.	1 liter

Perbandingan senilai

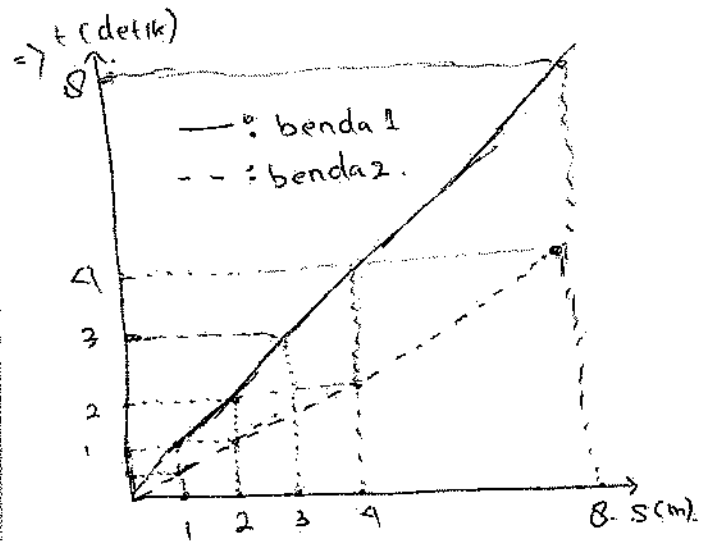
$$\frac{x}{102} = \frac{1}{32} \Leftrightarrow x = \frac{102 \cdot 1}{32} = 3 \frac{6}{32} \text{ km} //$$

Halaman: 12/13

— Nomor 4 —

$$V_1 = 1 \text{ m/detik}, V_2 = 2 \frac{\text{m}}{\text{detik}}.$$

titik awal (0,0)



— Nomor 5 —

$$\text{Dik: } R = r \frac{\ell}{A}$$

$$r_1 = r_2, \ell_1 = \frac{1}{2} \ell_2, R_1 = 30 \Omega.$$

$$\Rightarrow R_2 = r_2 \frac{\ell_2}{A_2}, \text{ mis. } A_2 = A_1.$$

$$R_2 = r_1 \cdot \frac{2 \ell_1}{A_1} = 2 \cdot r_1 \frac{\ell_1}{A_1} = 2 \cdot 30 \Omega$$

$$= 60 \Omega //$$

— PESAN —

NOMOR 2 DAN 3 POSISINYA TERTUKAR.

MODEL SOAL AKM BAB 3

Halaman: 13 / 13.

— " — Pertanyaan 1 — " — " — " — " —

P1: Salah, karena pada SP 1971

X rasio penduduk adalah 97

$$\Rightarrow \frac{\text{Jumlah laki-laki}}{\text{Jumlah perempuan}} = \frac{97}{100}$$

\therefore Jumlah perempuan > Jumlah laki-laki //

P2: Rasio SP 2020 = 102

$$\checkmark \Rightarrow \frac{\text{Jumlah laki-laki}}{\text{Jumlah perempuan}} = \frac{102:2}{100:2} = \frac{51}{50} //$$

P3: Benar, karena rasio di Jawa Timur
 \checkmark adalah 100 (sama atau mendekati).

P4: Salah (belum tentu), karena

? kurang nya informasi antara
 jumlah penduduk NTT dan NTB

— " — Pertanyaan 2 — " — " — " — " —

Dik. rasio penduduk SP 2020 di Papua
 = 114.

Jumlah penduduk Papua = 4.303.707 jiwa.

$$\Rightarrow \text{Rasio} = \frac{114}{100} = \frac{\text{Jumlah laki-laki di Papua}}{\text{Jumlah perempuan di Papua}}$$

$$\Rightarrow \frac{\text{Jum. laki-laki di Papua}}{\text{Jum. Penduduk di Papua}} = \frac{114}{114+100}$$

$$\Leftrightarrow \frac{x}{4303707} = \frac{114}{214}$$

$$\Leftrightarrow x = \frac{114 \cdot 4303707}{214} = \frac{490622598}{214}$$

$$= 2292629 \frac{206}{214} \text{ jiwa}$$

$$\approx 2292629 \text{ jiwa (D) //$$