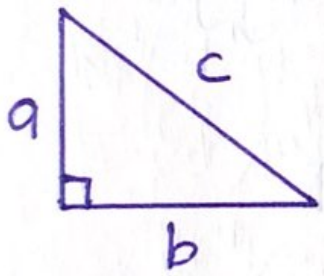
FORMULA TING. 1, 2, 3

Integer

* $x + (+y) = x + y$
* $x + (-y) = x - y$
* $x - (+y) = x - y$
* $x - (-y) = x + y$

Teorem Pythagoras



$c^2 = \sqrt{(a^2 + b^2)}$

$a^2 / b^2 = \sqrt{(c^2 - b^2)}$

@

$\sqrt{(c^2 - a^2)}$

Bulatan

* Lilitan $= 2\pi j$ / πd
* Panjang lengkok $= \frac{\theta}{360} \times 2\pi j$
* Luas bulatan $= \pi j^2$
* Luas sektor $= \frac{\theta}{360} \times \pi j^2$

Luas Pepejal Geometri

* Silinder = $2\pi j^2 + 2\pi jt$ → permukaan melengkung
* Kon = $\pi j^2 + \pi js$
* Sfera = $4\pi j^2$
* Piramid = $(P \times L) + \left(\frac{1}{2} \times t \times t\right) x$

luas tapak segi tiga

jumlah luas segi tiga

* Hemisfera = $\pi j^2 + 2\pi j^2$

Isipadu

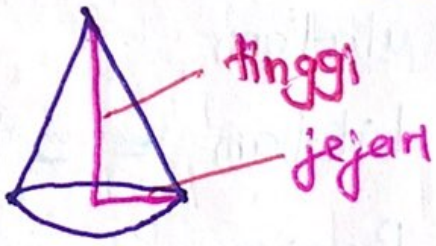
→ Prisma = Luas tapak x Tinggi

→ Silinder = $\pi j^2 t$

→ Kubus / Kuboid = $P \times L \times T$

→ Piramid = $\frac{1}{3}$ x Luas tapak x Tinggi

→ Kon = $\frac{1}{3}\pi j^2 t$



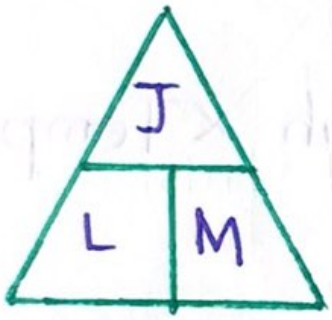
→ Sfera = $\frac{4}{3}\pi j^3$

→ Hemisfera = $\frac{2}{3}\pi j^3$

Nombor Perdana

2, 3, 5, 7, 11, 13, 17, 19, 23,
29, 31, 37, 41, 43, 47, 53, 59,
61, 67, 71, 73, 79, 83, 89, 97

Nisbah, Kadar & Kadaran II



↳ Jarak = Laju x Masa

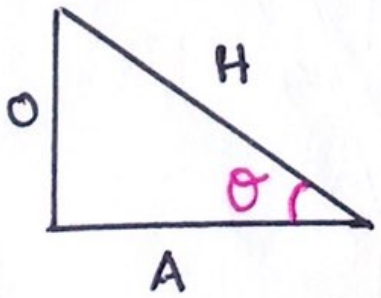
↳ $\text{Laju} = \frac{\text{Jarak}}{\text{Masa}}$

↳ $\text{Masa} = \frac{\text{Jarak}}{\text{Laju}}$

↳ $\text{Laju purata} = \frac{\text{Jumlah jarak}}{\text{Masa yg diambil}}$

↳ $\text{Pecutan} = \frac{\text{Perubahan laju}}{\text{Masa}}$

Trigonometri



$\underset{\cos}{C} = \frac{A}{H}$ | $\underset{\sin}{S} = \frac{O}{H}$ | $\underset{\text{tangen}}{T} = \frac{O}{A}$

Peratusan

* % untung = $\frac{\text{keuntungan}}{\text{harga kos}} \times 100\%$

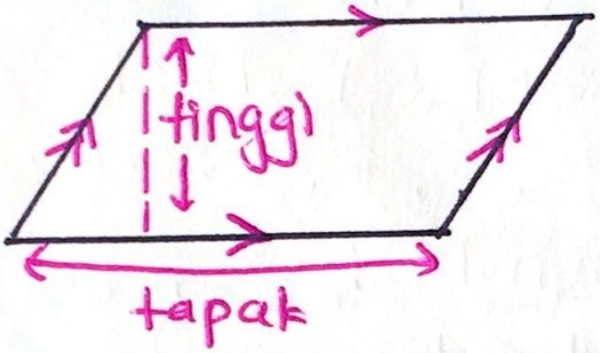
* % rugi = $\frac{\text{kerugian}}{\text{harga kos}} \times 100\%$

* Faedah mudah

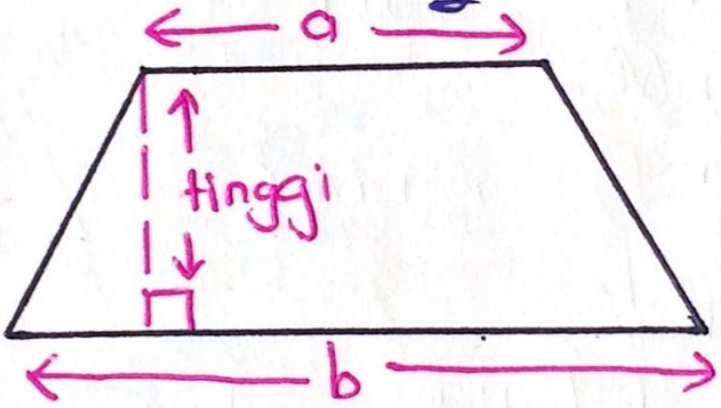
= Pokok × Peratusan faedah × Tempoh

Luas

→ Segi empat selari = Tapak x Tinggi



→ Trapezium = $\frac{1}{2}$ (a + b) x Tinggi



Koordinat

- Jarak $= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
- Titik tengah $= \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

Indeks

→ $a^n = \underbrace{a \times a \times a \times a \ldots\ldots \times a}_{\text{faktor} \equiv \text{'n'}}$

→ $a^m \times a^n = a^{m+n}$

→ $a^m \div a^n = a^{m-n}$

→ $(ab)^m = a^m b^m$

→ $(a^m)^n = a^{mn}$

→ $(a^n \times b^m)^k = a^{nk} \times b^{mk}$

→ $a^0 = 1$

→ $a^{-1} = \frac{1}{a}$

→ $a^{-n} = \frac{1}{a^n}$

→ $a^{\frac{1}{n}} = \sqrt[n]{a}$

→ $a^{\frac{m}{n}} = \sqrt[n]{a^m}$

$= \left(\sqrt[n]{a}\right)^m$

Ungkapan Algebra

* $a(b+c) = ab + ac$

* $(a+b)(c+d) = ac + ad + bc + bd$

@

$(a+b)(c+d) = ac + bc + ad + bd$

* $(a+b)^2 = a^2 + 2ab + b^2$
* $(a-b)^2 = a^2 - 2ab + b^2$
* $a^2 - b^2 = (a+b)(a-b)$

Lukisan Berskala & Penjelmaan

→ Panjang sebenar = × skala

→ Panjang lukisan = ÷ skala

→ Skala (Faktor) $(k) = \frac{\text{Pjg sisi lukisan}}{\text{Pjg sisi objek sepadan}}$

→ Skala 1 : N, L : O

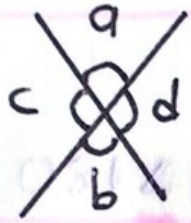
* $1:1 \rightarrow L = O$
* $1:\frac{1}{2} \rightarrow L > O$
* $1:2 \rightarrow L < O$

→ Luas imej = k^2 × Luas objek

→ Luas objek = $\frac{\text{Luas imej}}{k^2}$

Sudut dan Garis

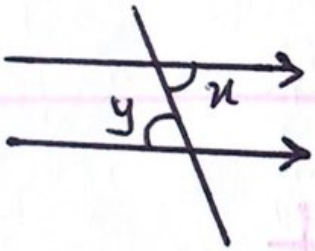
↳ Sudut bertentangan bucu



$a = b$

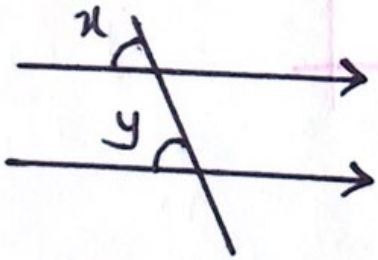
$c = d$

↳ Sudut berselang-seli



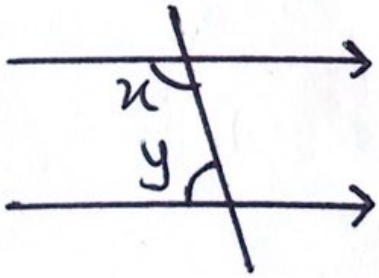
$x = y$

↳ Sudut sepadan



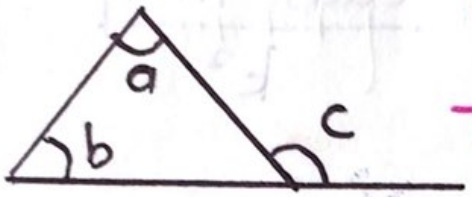
$x = y$

↳ Sudut pedalaman

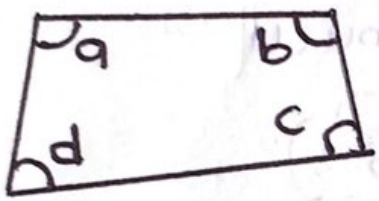


$x + y = 180°$

Poligon

↳ 

$$c = a + b$$

↳ 

$$a + b + c + d = 360°$$

↳ Bilangan sisi = $(n-2) \times 180$

$$= \frac{\text{Hasil tambah} \angle \text{pedalaman}}{n}$$

↳ Sudut pedalaman

$$\frac{(n-2) \times 180°}{n}$$

↳ Sudut peluaran

$$\frac{360}{n}$$