

FORMLER TILL NATIONELLT PROV I MATEMATIK KURS A

PREFIX

Beteckning Namn Tiopotens	T tera 10^{12}	G giga 10^9	M mega 10^6	k kilo 10^3	h hekto 10^2	d deci 10^{-1}	c centi 10^{-2}	m milli 10^{-3}	μ mikro 10^{-6}
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POTENSER

För alla tal x och y och positiva tal a gäller

$$a^x \cdot a^y = a^{x+y} \qquad \frac{a^x}{a^y} = a^{x-y} \qquad (a^x)^y = a^{xy}$$

$$a^{\frac{1}{2}} = \sqrt{a} \qquad a^{\frac{1}{3}} = \sqrt[3]{a}$$

$$a^{-x} = \frac{1}{a^x} \qquad a^0 = 1$$

FUNKTIONSLÄRA

Linjär funktion

$$y = kx + m$$

om $y = kx$ är y proportionell mot x

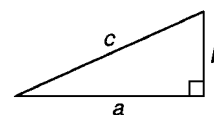
Exponentialfunktion

$$y = C \cdot a^x$$

GEOMETRI

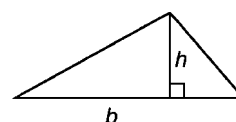
Pythagoras sats

$$a^2 + b^2 = c^2$$



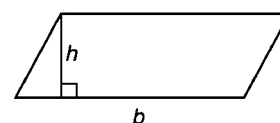
Triangel

$$\text{area} = \frac{bh}{2}$$



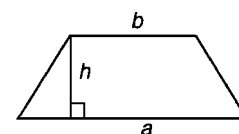
Parallelogram

$$\text{area} = bh$$



Parallelltrapets

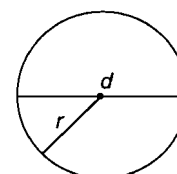
$$\text{area} = \frac{h(a+b)}{2}$$



Cirkel

$$\text{area} = \pi r^2 = \frac{\pi d^2}{4}$$

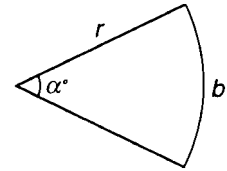
$$\text{omkrets} = 2\pi r = \pi d$$



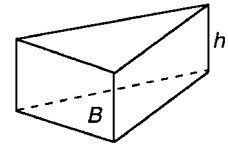
Cirkelsektor

$$\text{bågen } b = \frac{\alpha}{360} \cdot 2\pi r$$

$$\text{area} = \frac{\alpha}{360} \cdot \pi r^2 = \frac{br}{2}$$

**Prisma**

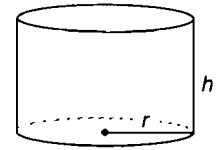
$$\text{volym} = Bh$$

**Cylinder**

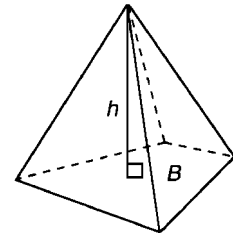
Rak cirkulär cylinder

$$\text{volym} = \pi r^2 h$$

$$\text{mantelarea} = 2\pi r h$$

**Pyramid**

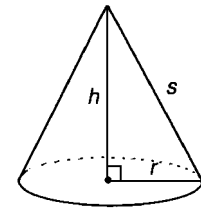
$$\text{volym} = \frac{Bh}{3}$$

**Kon**

Rak cirkulär kon

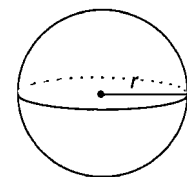
$$\text{volym} = \frac{\pi r^2 h}{3}$$

$$\text{mantelarea} = \pi r s$$

**Klot**

$$\text{volym} = \frac{4\pi r^3}{3}$$

$$\text{area} = 4\pi r^2$$

**TRIGONOMETRI****Rätvinkliga triangeln**

$$\cos v = \frac{a}{c}$$

$$\sin v = \frac{b}{c}$$

$$\tan v = \frac{b}{a}$$

