

Formler i matematik som får användas på ämnesprovet i årskurs 9

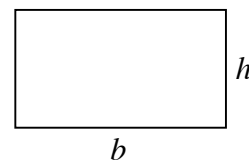
PREFIX

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

GEOMETRI

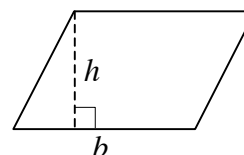
Rektangel

$$\text{area} = b \cdot h$$



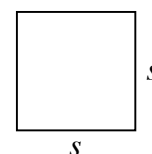
Parallelogram

$$\text{area} = b \cdot h$$



Kvadrat

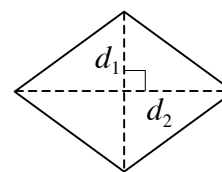
$$\text{area} = s^2$$



Romb

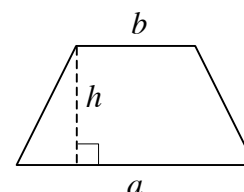
$$\text{area} = \frac{d_1 \cdot d_2}{2}$$

d_1 och d_2 är diagonaler



Parallelltrapets

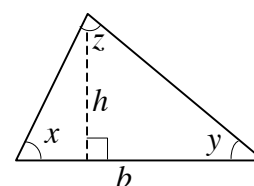
$$\text{area} = \frac{h(a+b)}{2}$$



Triangel

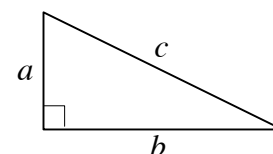
$$\text{area} = \frac{b \cdot h}{2}$$

vinkelsumma =
 $x + y + z = 180^\circ$



Pythagoras sats

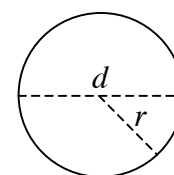
$$a^2 + b^2 = c^2$$



Cirkel

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

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

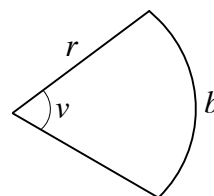


Var god vänd

GEOMETRI
fortsättning

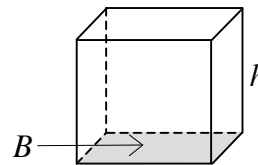
Cirkelsektor

$$\text{bågen } b = \frac{v}{360} \cdot 2\pi r$$
$$\text{area} = \frac{v}{360} \cdot \pi r^2 = \frac{b \cdot r}{2}$$



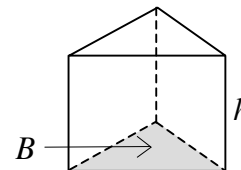
Rätblock

$$\text{volym} = B \cdot h$$



Prisma

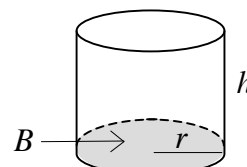
$$\text{volym} = B \cdot h$$



Cylinder

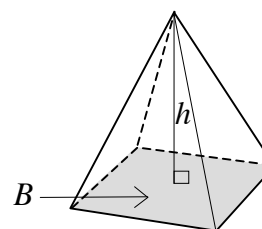
Rak cirkulär cylinder

$$\text{volym} = B \cdot h$$
$$\text{mantelarea} = 2\pi r h$$



Pyramid

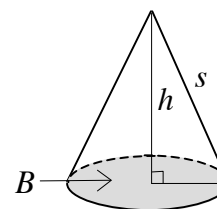
$$\text{volym} = \frac{B \cdot h}{3}$$



Kon

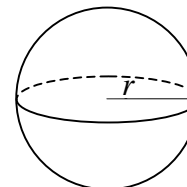
Rak cirkulär kon

$$\text{volym} = \frac{B \cdot h}{3}$$
$$\text{mantelarea} = \pi r s$$



Klot

$$\text{volym} = \frac{4 \cdot \pi \cdot r^3}{3}$$
$$\text{area} = 4\pi r^2$$



SAMBAND

Linjär funktion

$$y = kx + m$$

om $y = kx$ är y proportionell mot x

POTENSER

För alla tal x och y och positiva tal a gäller:

$$a^x \cdot a^y = a^{x+y}$$

$$\frac{a^x}{a^y} = a^{x-y}$$

$$(a^x)^y = a^{xy}$$

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

$$a^0 = 1$$