

Formler m.m. till ämnesprovet i matematik, årskurs 9

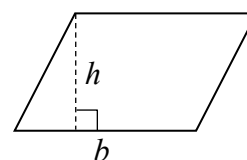
PREFIX

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

GEOMETRI

Parallelogram

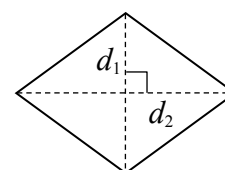
$$\text{area} = b \cdot h$$



Romb

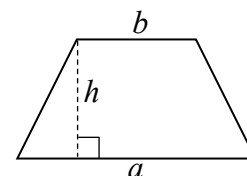
$$\text{area} = \frac{d_1 \cdot d_2}{2}$$

d_1 och d_2 är diagonaler



Parallelltrapets

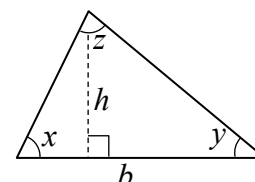
$$\text{area} = \frac{h(a+b)}{2}$$



Triangel

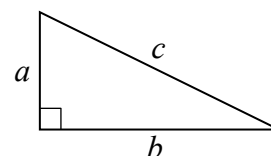
$$\text{area} = \frac{b \cdot h}{2}$$

$$\text{vinkelsumma} = x + y + z = 180^\circ$$



Pythagoras sats

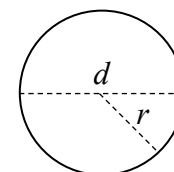
$$a^2 + b^2 = c^2$$



Cirkel

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

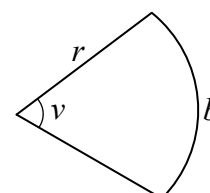
$$\text{omkrets} = \pi \cdot d = 2 \cdot \pi \cdot r$$



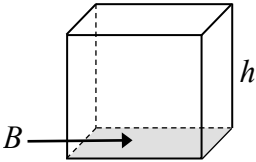
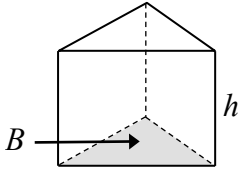
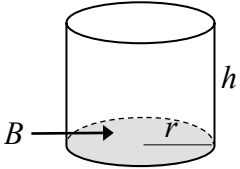
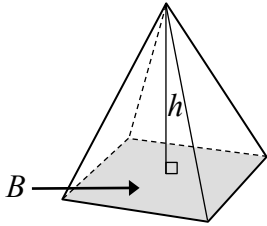
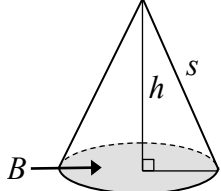
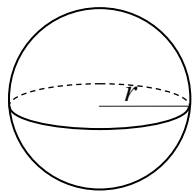
Cirkelsektor

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

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



Var god vänd!

Rätblock	$\text{volym} = B \cdot h$	
Prisma	$\text{volym} = B \cdot h$	
Cylinder	<i>Rak cirkulär cylinder</i> $\text{volym} = B \cdot h$ $\text{mantelarea} = 2 \cdot \pi \cdot r \cdot h$	
Pyramid	$\text{volym} = \frac{B \cdot h}{3}$	
Kon	<i>Rak cirkulär kon</i> $\text{volym} = \frac{B \cdot h}{3}$ $\text{mantelarea} = \pi \cdot r \cdot s$	
Klot	$\text{volym} = \frac{4 \cdot \pi \cdot r^3}{3}$ $\text{area} = 4 \cdot \pi \cdot r^2$	
Skala	$\text{areaskala} = (\text{längdskala})^2$ $\text{volymaskala} = (\text{längdskala})^3$	
SAMBAND	Räta linjen	$y = kx + m$ om $y = kx$ är y proportionell mot x
POTENSER	För alla tal x och y och positiva tal a gäller	
	$a^x \cdot a^y = a^{x+y}$	$\frac{a^x}{a^y} = a^{x-y}$
	$a^{-x} = \frac{1}{a^x}$	$(a^x)^y = a^{xy}$
	$a^0 = 1$	