

Formler m.m. till nationellt prov i matematik, årskurs 9

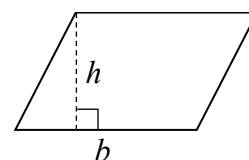
PREFIX

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

Parallelogram

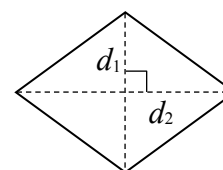
$$\text{area} = b \cdot h$$



Romb

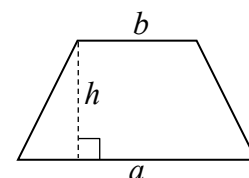
$$\text{area} = \frac{d_1 \cdot d_2}{2}$$

d_1 och d_2 är diagonaler



Parallelltrapets

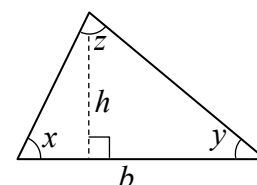
$$\text{area} = \frac{h(a+b)}{2}$$



Triangel

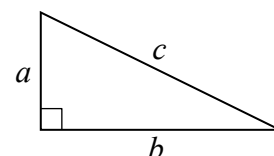
$$\text{area} = \frac{b \cdot h}{2}$$

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



Pythagoras sats

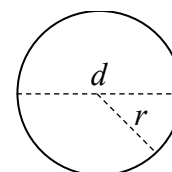
$$a^2 + b^2 = c^2$$



Cirkel

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

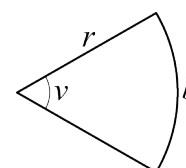
$$\text{omkrets} = \pi \cdot d = 2 \cdot \pi \cdot r$$



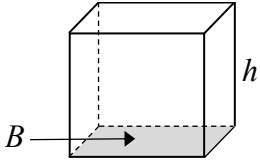
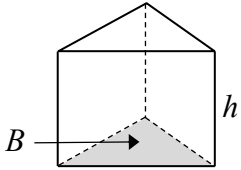
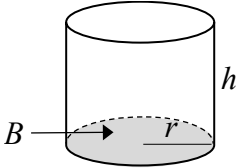
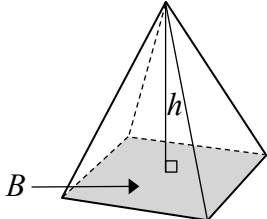
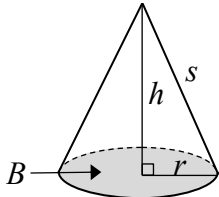
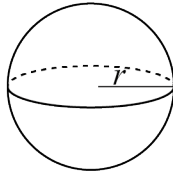
Cirkelsektor

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

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



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	$\text{areaskala} = (\text{längdskala})^2$ $\text{volymskala} = (\text{längdskala})^3$	
SAMBAND	Räta linjen	$y = kx + m$ om $y = kx$ är y proportionell mot x	
POTENSER	För alla tal x och y samt positiva tal a gäller		
	$a^x \cdot a^y = a^{x+y}$	$\frac{a^x}{a^y} = a^{x-y}$	$(a^x)^y = a^{xy}$
	$a^{-x} = \frac{1}{a^x}$	$a^0 = 1$	