

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

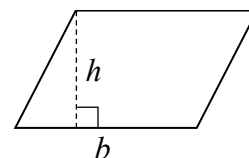
### PREFIX

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 $10^{-3}$	$\mu$ mikro $10^{-6}$	n nano $10^{-9}$
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### GEOMETRI

#### Parallelogram

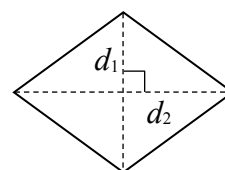
$$\text{area} = b \cdot h$$



#### Romb

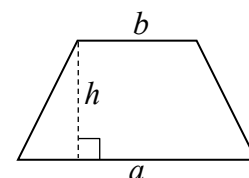
$$\text{area} = \frac{d_1 \cdot d_2}{2}$$

$d_1$  och  $d_2$  är diagonaler



#### Parallelltrapets

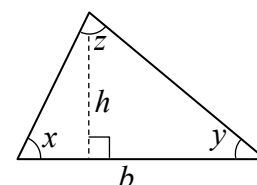
$$\text{area} = \frac{h(a+b)}{2}$$



#### Triangel

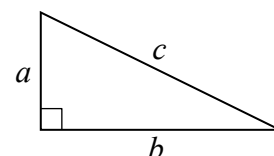
$$\text{area} = \frac{b \cdot h}{2}$$

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



#### Pythagoras sats

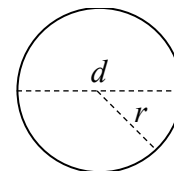
$$a^2 + b^2 = c^2$$



#### Cirkel

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

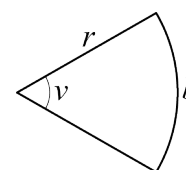
$$\text{omkrets} = \pi \cdot d = 2 \cdot \pi \cdot r$$



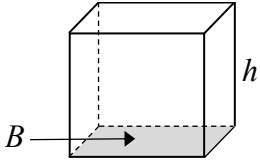
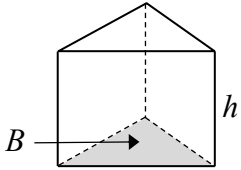
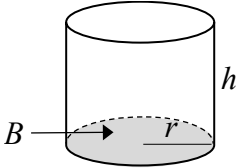
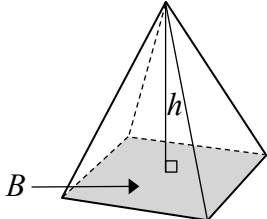
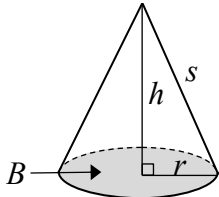
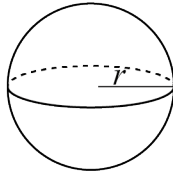
#### Cirkelsektor

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

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



Var god vänd!

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