

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

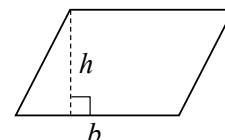
PREFIX

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

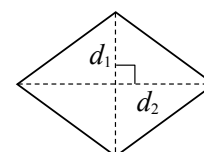
Parallelogram

area = $b \cdot h$



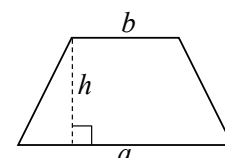
Romb

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

 d_1 och d_2 är diagonaler

Parallelltrapets

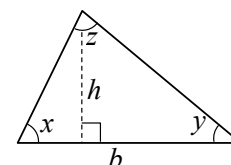
area = $\frac{h(a+b)}{2}$



Triangel

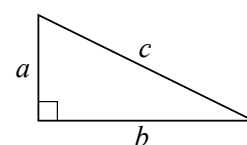
area = $\frac{b \cdot h}{2}$

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



Pythagoras sats

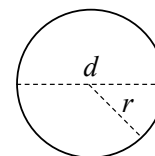
$a^2 + b^2 = c^2$



Cirkel

area = $\pi \cdot r^2$

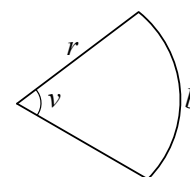
omkrets = $\pi \cdot d = 2 \cdot \pi \cdot r$



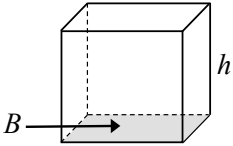
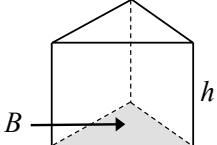
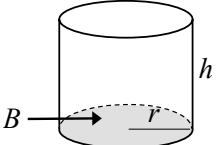
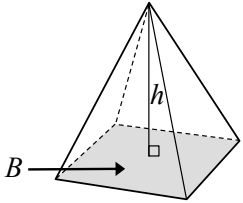
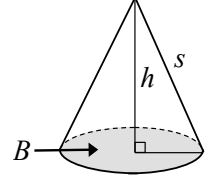
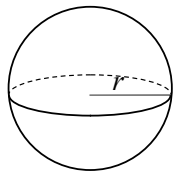
Cirkelsektor

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

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

Finns att ladda ner på www.su.se/primgruppen

Kopieringsunderlag 1

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 och positiva tal a gäller $a^x \cdot a^y = a^{x+y}$ $a^{-x} = \frac{1}{a^x}$ $\frac{a^x}{a^y} = a^{x-y}$ $a^0 = 1$ $(a^x)^y = a^{xy}$	

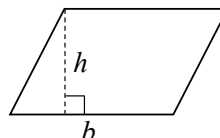
Finns att ladda ner på www.su.se/primgruppen

Formulas etc. for the national test in mathematics, year 9

PREFIXES

Symbol	T	G	M	k	h	d	c	m	μ	n
Name	tera	giga	mega	kilo	hecto	deci	centi	milli	micro	nano
Power of 10	10^{12}	10^9	10^6	10^3	10^2	10^{-1}	10^{-2}	10^{-3}	10^{-6}	10^{-9}

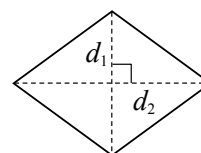
GEOMETRY Parallelogram area = $b \times h$



Rhomb

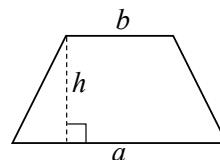
$$\text{area} = \frac{d_1 \times d_2}{2}$$

d_1 and d_2 are diagonals



Parallel trapezium

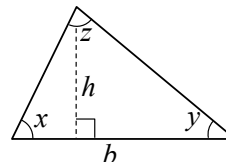
$$\text{area} = \frac{h(a+b)}{2}$$



Triangle

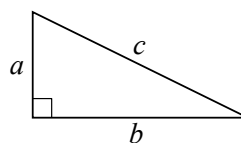
$$\text{area} = \frac{b \times h}{2}$$

sum of angle measures =
 $x + y + z = 180^\circ$



Pythagoras' theorem

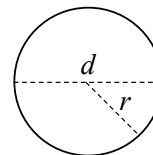
$$a^2 + b^2 = c^2$$



Circle

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

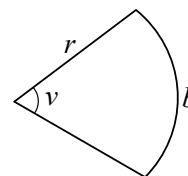
$$\text{circumference} = \pi \times d = 2 \times \pi \times r$$



Circle sector

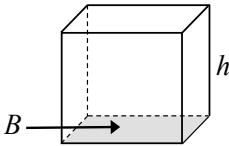
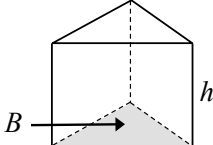
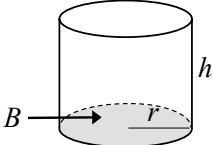
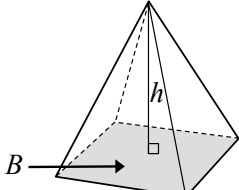
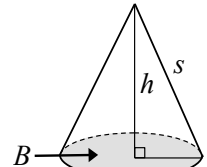
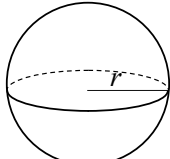
$$\text{arc length } b = \frac{v}{360} \times 2 \times \pi \times r$$

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



Finns att ladda ner på www.su.se/primgruppen

Kopieringsunderlag 2

Cuboid	volume = $B \times h$	
Prism	volume = $B \times h$	
Cylinder	<i>Right circular cylinder</i> volume = $B \times h$ lateral area = $2 \times \pi \times r \times h$	
Pyramid	volume = $\frac{B \times h}{3}$	
Cone	<i>Right circular cone</i> volume = $\frac{B \times h}{3}$ lateral area = $\pi \times r \times s$	
Sphere	volume = $\frac{4 \times \pi \times r^3}{3}$ area = $4 \times \pi \times r^2$	
Scale	area scale factor = (length scale factor) ² volume scale factor = (length scale factor) ³	
FUNCTIONS	Equation of a line $y = kx + m$ if $y = kx$ then y is proportional to x	
EXPONENTS	For all number x and y and positive numbers a $a^x \times a^y = a^{x+y}$ $a^{-x} = \frac{1}{a^x}$ $\frac{a^x}{a^y} = a^{x-y}$ $a^0 = 1$ $(a^x)^y = a^{xy}$	

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