

# GEOMETRIE

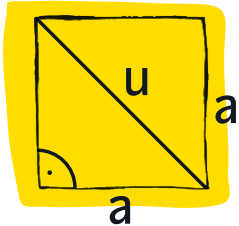
# TÁHAK

## Obrazce

o = obvod      r = poloměr  
 S = obsah      d = průměr      u = úhlopříčka

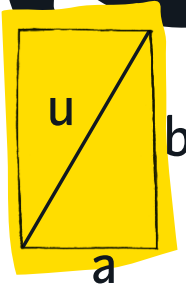
### ČTVEREC

o = 4a  
 S = a<sup>2</sup>



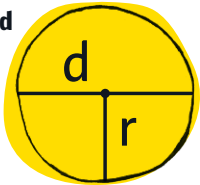
### OBDELNÍK

o = 2(a + b)  
 S = ab



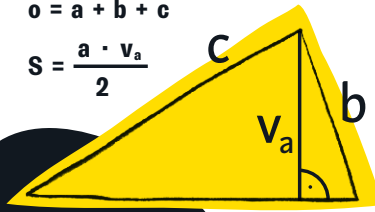
### KRUH

o = 2πr = πd  
 S = πr<sup>2</sup>



### TROJÚHELNÍK

o = a + b + c  
 S =  $\frac{a \cdot v_a}{2}$



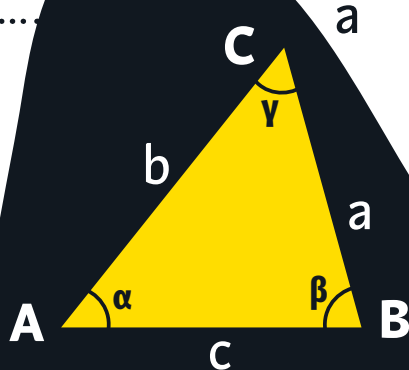
součet vnitřních úhlů  
 v trojúhelníku  
 $\alpha + \beta + \gamma = 180^\circ$

Sinová věta

$$\frac{a}{\sin \alpha} = \frac{b}{\sin \beta} = \frac{c}{\sin \gamma}$$

Kosinová věta

$$a^2 = b^2 + c^2 - 2bc \cos \alpha$$



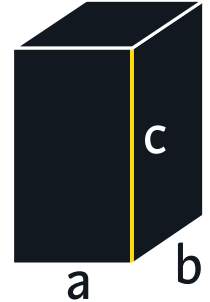
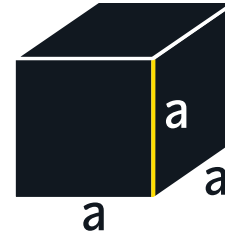
## Tělesa

V = objem      S<sub>p</sub> = obsah podstavy      v = výška tělesa  
 S = povrch      S<sub>pl</sub> = obsah pláště      s = strana pláště

HRANOL      V = S<sub>p</sub> · v      S = 2S<sub>p</sub> + S<sub>pl</sub>

### KRYCHLE

V = a<sup>3</sup>  
 S = 6a<sup>2</sup>

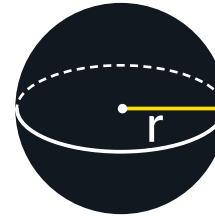


### KVÁDR

V = abc  
 S = 2(ab + bc + ac)

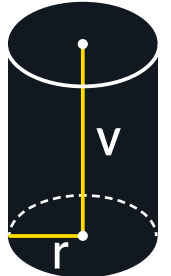
### KOULE

V =  $\frac{4}{3} \pi r^3$   
 S = 4πr<sup>2</sup>



### VÁLEC

V = πr<sup>2</sup>v  
 S = 2πr(r + v)



### KUŽEL

V =  $\frac{1}{3} \pi r^2 v$   
 S = πr(r + s)



### JEHLAN

V =  $\frac{1}{3} S_p \cdot v$   
 S = S<sub>p</sub> + S<sub>pl</sub>

