

# PIRAMIDA STAN 3

## 1) PRAVILNA 4-STRANA PIRAMIDA



a)  $a = 6 \text{ cm}$   $V = a^2$   $v_1^2 = s^2 - (\frac{a}{2})^2$   
 $v = 4 \text{ cm}$   $V = 36 \text{ cm}^2$   $v_1^2 = 16 + 9$   
 $P$   $pl = 2a v_1$   $v_1^2 = 25$   
 $P = V + pl$   $pl = 2 \cdot 6 \cdot 5$   $v_1 = 5 \text{ cm}$   
 $P = 36 + 60$   $pl = 60 \text{ cm}^2$   
 $\frac{a}{2} P = 96 \text{ cm}^2$

b)  $s = 13 \text{ m}$   $V = a^2$   $pl = 2a v_1$   
 $v_1 = 12 \text{ m}$   $V = 10^2$   $pl = 2 \cdot 10 \cdot 12$   
 $P$   $V = 100 \text{ m}^2$   $pl = 240 \text{ m}^2$   
 $P = V + pl$   
 $P = 340 \text{ m}^2$

$(\frac{a}{2})^2 = s^2 - v_1^2$   
 $(\frac{a}{2})^2 = 169 - 144$   $(\frac{a}{2})^2 = 25$   $\frac{a}{2} = 5$

$V = a^2$   $pl = 2a v_1$   $v_1^2 = s^2 - (\frac{a}{2})^2$   $pl = 2 \cdot a \cdot v_1$   $v_1^2 = s^2 - (\frac{a}{2})^2$   
 $V = 16^2$   $pl = 2 \cdot 16 \cdot 15$   $v_1^2 = 17^2 - 8^2$   $pl = 2 \cdot 60 \cdot 33,5$   $v_1^2 = 45^2 - 30^2$   
 $V = 256 \text{ cm}^2$   $pl = 480 \text{ cm}^2$   $v_1^2 = 225$   $pl = 1340 \text{ dm}^2$   $v_1^2 = 1125$   
 $v_1 = 15 \text{ cm}$   $v_1 = 33,5 \text{ dm}$

c)  $a = 16 \text{ cm}$   
 $s = 17 \text{ cm}$   
 $P$   
 $P = V + pl$   
 $P = 736 \text{ cm}^2$

e)  $v = 15 \text{ dm}$   
 $s = 45 \text{ dm}$   
 $P$

$P = V + pl$   $V = a^2$   $(\frac{d}{2})^2 = s^2 - v^2$   $\frac{d}{2} = 42,4$   
 $P = 3481 + 1340$   $V = 59^2$   $d = 84,8 \text{ dm}$   
 $P = 4821 \text{ dm}^2$   $V = 3481 \text{ dm}^2$   $(\frac{d}{2})^2 = 45^2 - 15^2$   $d = a\sqrt{2}$   
 $(\frac{d}{2})^2 = 1800$   $a = \frac{d}{\sqrt{2}}$

$a = \frac{84,8}{\sqrt{2}} = 60$

## 2) PRAVILNA ENAKONOBA 4-STRANA PIRAMIDA (a=s)

$pl = 100\sqrt{3} \text{ cm}^2$

ena stranska ploskev meri:  $100\sqrt{3} \text{ cm}^2 : 4 = 25\sqrt{3} \text{ cm}^2$

enakostranični  $\Delta$

$\frac{a^2\sqrt{3}}{4} = 25\sqrt{3}$   
 $a^2 = \frac{4 \cdot 25\sqrt{3}}{\sqrt{3}}$

$a = 10 \text{ cm}$

$V = a^2$   
 $V = 100 \text{ cm}^2$

$V = \frac{V \cdot v}{3}$   
 $V = \frac{100 \cdot 5\sqrt{2}}{3}$

$V = 166,6\sqrt{3} \text{ cm}^3$

$P = V + pl$   
 $P = (100 + 100\sqrt{3}) \text{ cm}^2$

$d = a\sqrt{2}$   $v^2 = s^2 - (\frac{d}{2})^2$   
 $d = 10\sqrt{2}$   $v^2 = 10^2 - (5\sqrt{2})^2$   
 $\frac{d}{2} = 5\sqrt{2}$   $v^2 = 100 - 50$   
 $v^2 = 50$   
 $v = \sqrt{50} = 5\sqrt{2}$   
 $v = 5\sqrt{2} \text{ cm}$

## 3) PRAVILNA 3-STRANA PIRAMIDA

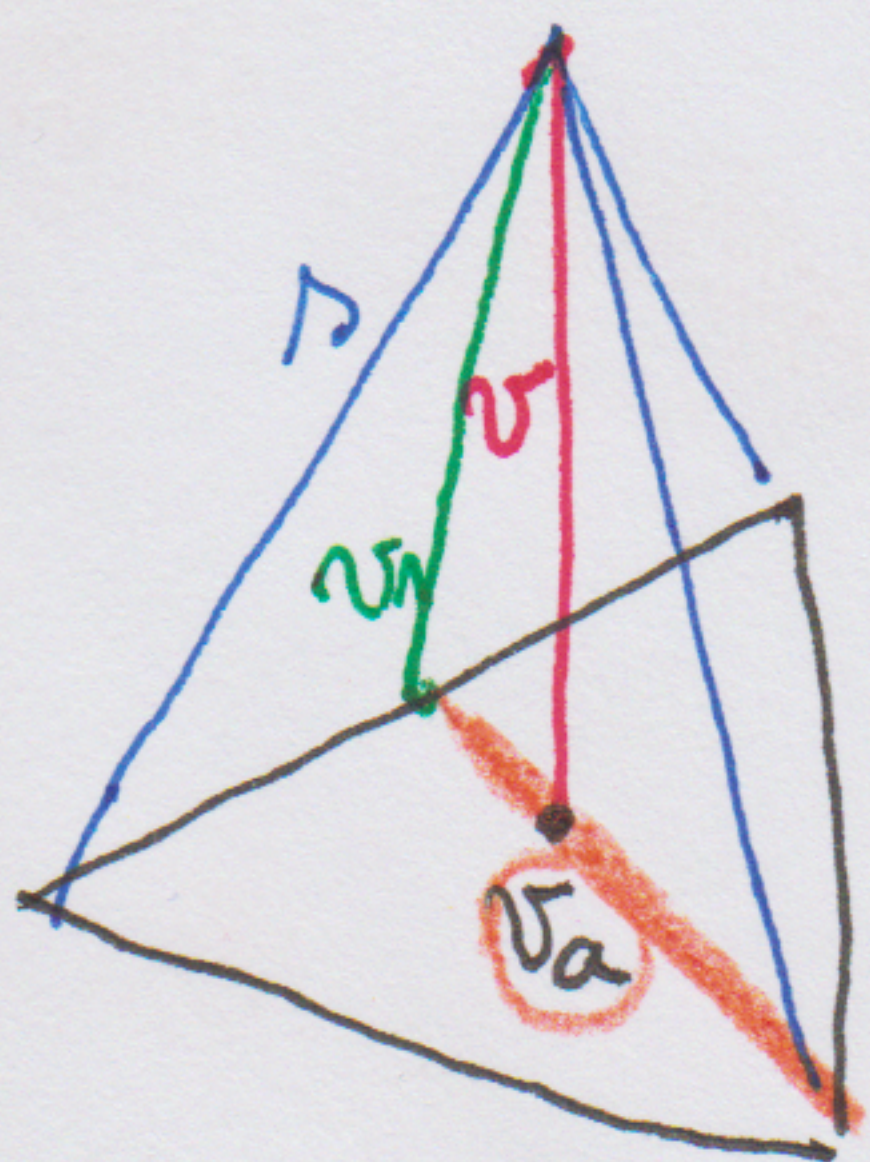
a)  $a = 8 \text{ dm}$   
 $v = 3\sqrt{3} \text{ dm}$

$V = \frac{V \cdot v}{3}$   
 $V = \frac{16\sqrt{3} \cdot 3\sqrt{3}}{3}$   
 $V = 48 \text{ dm}^3$

$V = \frac{a^2\sqrt{3}}{4}$

$V = \frac{8 \cdot 8\sqrt{3} \cdot 2}{4}$

$V = 16\sqrt{3} \text{ dm}^2$



b)  $v_a = 4\sqrt{3} \text{ cm}$   $v_a = \frac{a\sqrt{3}}{2}$   $V = \frac{a^2\sqrt{3}}{4}$   
 $v = 4,5 \text{ cm}$   
 $V =$   $\frac{a\sqrt{3}}{2} = v_a$   $V = \frac{8 \cdot 8\sqrt{3} \cdot 2}{4}$   
 $V = \frac{V \cdot v}{3}$   $a = \frac{2 \cdot v_a}{\sqrt{3}}$   $V = 16\sqrt{3} \text{ cm}^2$   
 $V = \frac{16\sqrt{3} \cdot 4,5}{3}$   $a = \frac{2 \cdot 4\sqrt{3}}{\sqrt{3}}$   
 $V = 24\sqrt{3} \text{ cm}^3$   $a = 8 \text{ cm}$