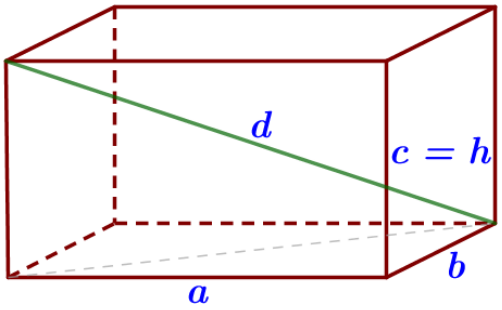
Стереометрия

Е. А. Ширяева (www.time4math.ru)

1



$l_{\text{реб}} = 4(a+b+c)$

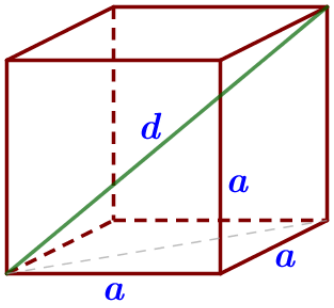
$d^2 = a^2 + b^2 + c^2$

$S_{\text{бок}} = 2(S_1 + S_2) = 2(ac + bc)$

$S_{\text{полн}} = 2(S_1 + S_2 + S_3) = 2(ac + bc + ab)$

$V = abc = S_{\text{осн}} \cdot h = abh$

2



$l_{\text{реб}} = 12a$

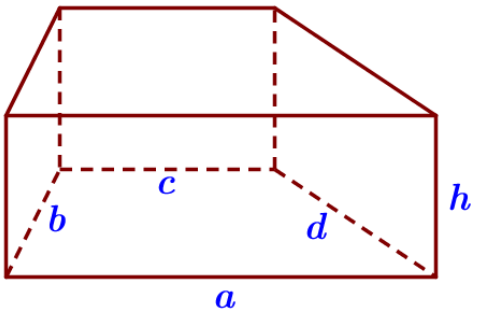
$d = \sqrt{3}a$

$S_{\text{бок}} = 4a^2$

$S_{\text{полн}} = 6a^2$

$V = a^3$

3



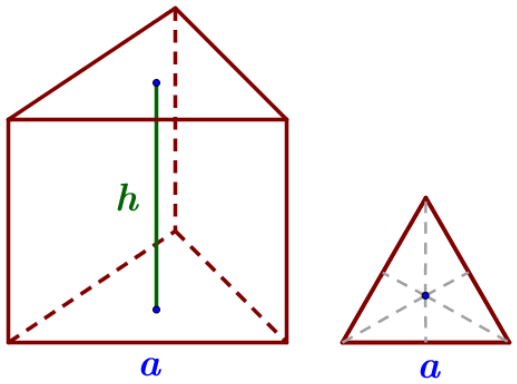
$S_{\text{осн}} - ?$

$S_{\text{бок}} = P_{\text{осн}} \cdot h = (a+b+c+d) \cdot h$

$S_{\text{полн}} = 2S_{\text{осн}} + S_{\text{бок}}$

$V = S_{\text{осн}} \cdot h$

4



$S_{\text{осн}} = \frac{\sqrt{3}}{4}a^2$

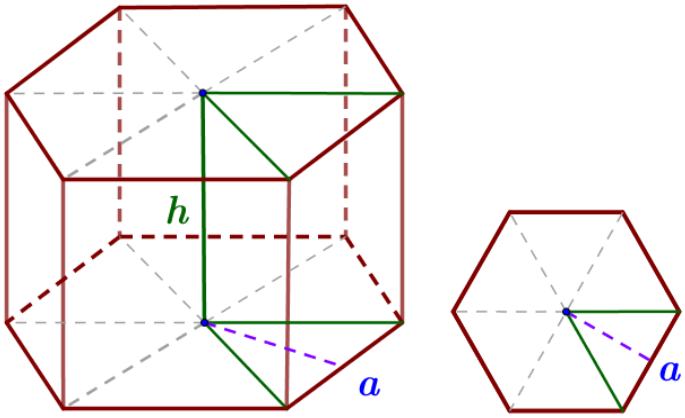
$S_{\text{бок}} = P_{\text{осн}} \cdot h = 3ah$

$S_{\text{полн}} = S_{\text{бок}} + 2S_{\text{осн}}$

$S_{\text{полн}} = 3ah + \frac{\sqrt{3}}{2}a^2$

$V = S_{\text{осн}} \cdot h = \frac{\sqrt{3}}{4}a^2h$

5



$S_{\text{осн}} = \frac{3\sqrt{3}}{2}a^2$

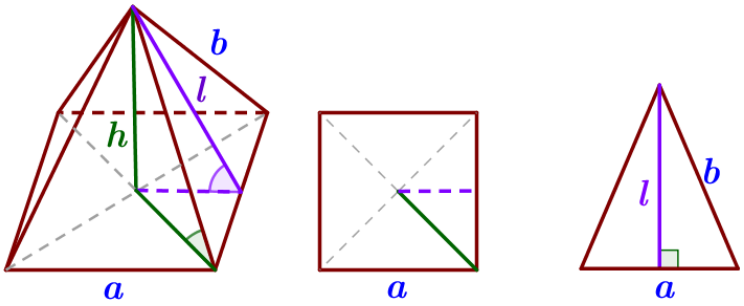
$S_{\text{бок}} = P_{\text{осн}} \cdot h = 6ah$

$S_{\text{полн}} = S_{\text{бок}} + 2S_{\text{осн}}$

$S_{\text{полн}} = 6ah + 3\sqrt{3}a^2$

$V = S_{\text{осн}} \cdot h = \frac{3\sqrt{3}}{2}a^2h$

6



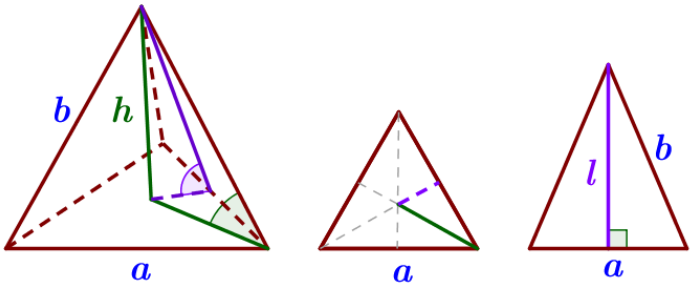
$$S_{осн} = a^2$$

$$S_{бок} = \frac{1}{2} \cdot P_{осн} \cdot l = 2al$$

$$S_{полн} = S_{бок} + S_{осн} = 2al + a^2$$

$$V = \frac{1}{3} S_{осн} \cdot h = \frac{1}{3} a^2 h$$

7



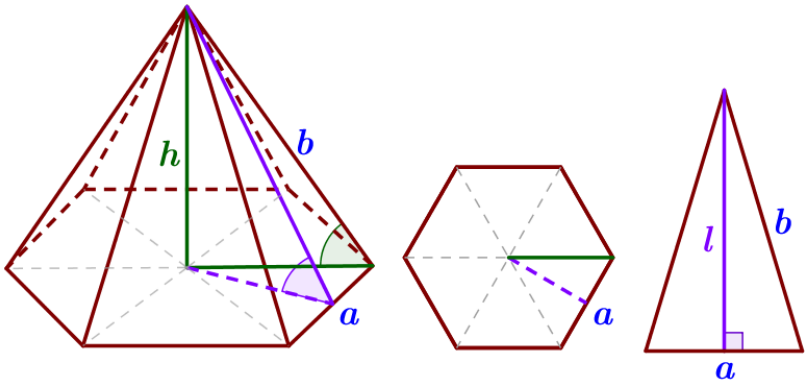
$$S_{осн} = \frac{\sqrt{3}}{4} a^2$$

$$S_{бок} = \frac{1}{2} \cdot P_{осн} \cdot l = 1{,}5al$$

$$S_{полн} = S_{бок} + S_{осн} = 1{,}5al + \frac{\sqrt{3}}{4} a^2$$

$$V = \frac{1}{3} S_{осн} \cdot h = \frac{\sqrt{3}}{12} a^2 h$$

8



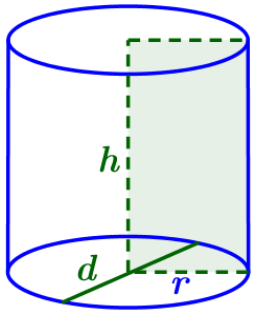
$$S_{осн} = \frac{3\sqrt{3}}{2} a^2$$

$$S_{бок} = \frac{1}{2} \cdot P_{осн} \cdot l = 3al$$

$$S_{полн} = S_{бок} + S_{осн} = 3al + \frac{3\sqrt{3}}{2} a^2$$

$$V = \frac{1}{3} S_{осн} \cdot h = \frac{\sqrt{3}}{2} a^2 h$$

9



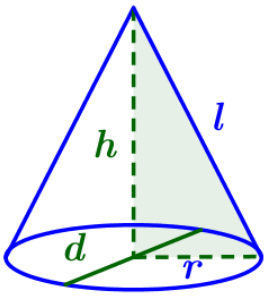
$$S_{осн} = \pi r^2$$

$$S_{бок} = 2\pi rh$$

$$S_{полн} = S_{бок} + 2S_{осн} = 2\pi rh + 2\pi r^2$$

$$V = S_{осн} \cdot h = \pi r^2 h$$

10



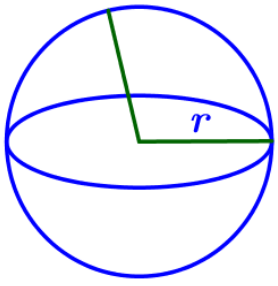
$$S_{осн} = \pi r^2$$

$$S_{бок} = \pi rl$$

$$S_{полн} = S_{бок} + S_{осн} = \pi rl + \pi r^2 = \pi r(l + r)$$

$$V = \frac{1}{3} S_{осн} \cdot h = \frac{1}{3} \pi r^2 h$$

11



$$S_{пов} = 4\pi r^2$$

$$S_{сеч} = \pi r^2$$

$$V = \frac{4}{3} \pi r^3$$