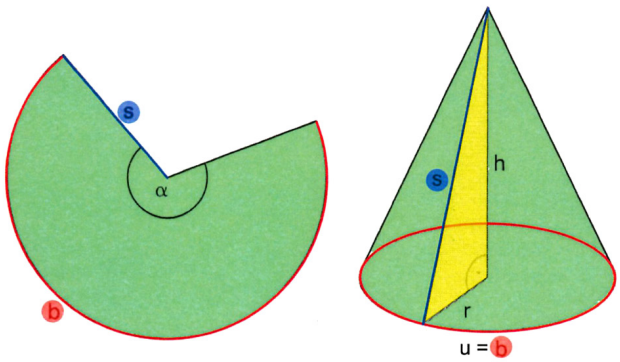
Kegelvolumen berechnen für $\alpha = 300° / 270° / 240° / 210° / 180° / 150°$



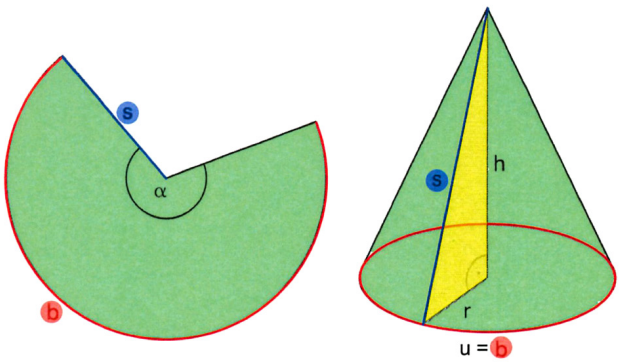
s = 6cm $\alpha = 300°$

$b = \frac{300^{5}}{360_{6}} \cdot 2 \cdot 6\,cm \cdot \pi = 10 \cdot \pi\ cm$

$r = \frac{b}{2 \cdot \pi} = \frac{10 \cdot \pi\ cm}{2 \cdot \pi} = 5\ cm$

$h = \sqrt{s^2 - r^2} = \sqrt{6^2 - 5^2} = \sqrt{11}\ cm$

$V = \frac{1}{3} \cdot r^2 \cdot \pi \cdot h = \frac{1}{3} \cdot (5\,cm)^2 \cdot \pi \cdot \sqrt{11}\,cm \approx 86{,}8\,cm^3$



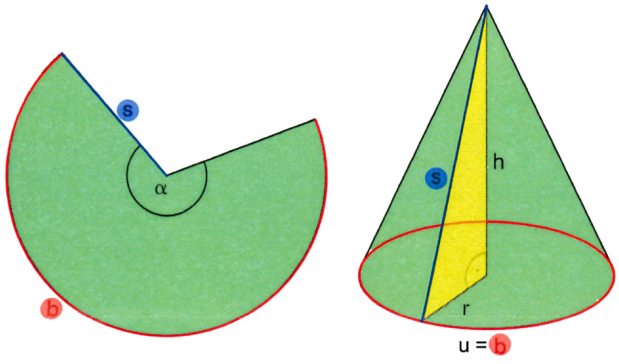
s = 6cm $\alpha = 270°$

$b = \frac{270^{3}}{360_{4}} \cdot 2 \cdot 6\,cm \cdot \pi = 9\,\pi\ cm$

$r = \frac{b}{2 \cdot \pi} = \frac{9 \cdot \pi\ cm}{2 \cdot \pi} = 4{,}5\,cm$

$h = \sqrt{s^2 - r^2} = \sqrt{6^2 - 4{,}5^2} = \sqrt{15{,}75}\ cm$

$V = \frac{1}{3} \cdot r^2 \cdot \pi \cdot h = \frac{1}{3} \cdot (4{,}5\,cm)^2 \cdot \pi \cdot \sqrt{15{,}75}\,cm \approx 84{,}2\,cm^3$



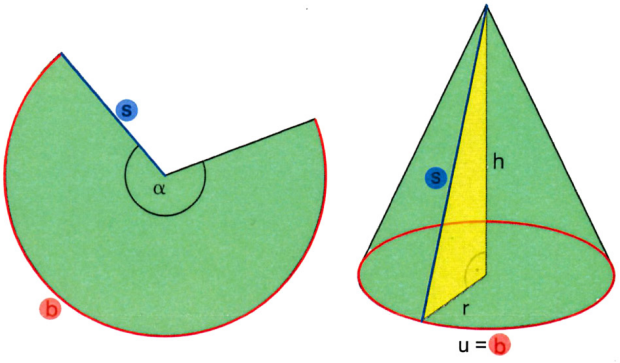
s = 6cm $\alpha = 240°$

$b = \frac{240^{2}}{360_{3}} \cdot 2 \cdot 6\,cm \cdot \pi = 8 \cdot \pi\ cm$

$r = \frac{b}{2 \cdot \pi} = \frac{8 \cdot \pi\ cm}{2 \cdot \pi} = 4\ cm$

$h = \sqrt{s^2 - r^2} = \sqrt{6^2 - 4^2} = \sqrt{20}\ cm$

$V = \frac{1}{3} \cdot r^2 \cdot \pi \cdot h = \frac{1}{3} \cdot (4\,cm)^2 \cdot \pi \cdot \sqrt{20}\,cm \approx 74{,}9\,cm^3$



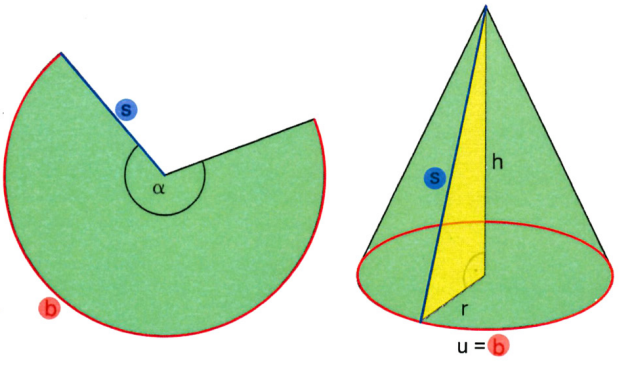
s = 6cm $\alpha = 210°$

$b = \frac{210^{7}}{360_{12}} \cdot 2 \cdot 6\,cm \cdot \pi = 7 \cdot \pi\ cm$

$r = \frac{b}{2 \cdot \pi} = \frac{7 \cdot \pi\ cm}{2 \cdot \pi} = 3{,}5\,cm$

$h = \sqrt{s^2 - r^2} = \sqrt{6^2 - 3{,}5^2} = \sqrt{23{,}75}\ cm$

$V = \frac{1}{3} \cdot r^2 \cdot \pi \cdot h = \frac{1}{3} \cdot (3{,}5\,cm)^2 \cdot \sqrt{23{,}75}\,cm \approx 62{,}5\,cm^3$



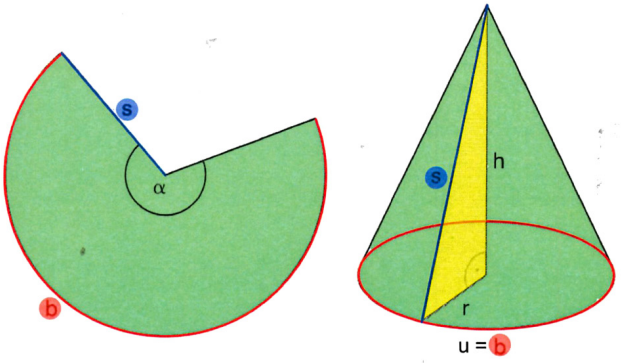
s = 6cm $\alpha = 180°$

$b = \frac{180^{1}}{360_{2}} \cdot 2 \cdot 6\,cm \cdot \pi = 6 \cdot \pi\ cm$

$r = \frac{b}{2 \cdot \pi} = \frac{6 \cdot \pi\ cm}{2 \cdot \pi} = 3\ cm$

$h = \sqrt{s^2 - r^2} = \sqrt{6^2 - 3^2} = \sqrt{27}\ cm$

$V = \frac{1}{3} \cdot r^2 \cdot \pi \cdot h = \frac{1}{3} \cdot (3\,cm)^2 \cdot \pi \cdot \sqrt{27}\,cm \approx 49{,}0\,cm^3$



s = 6cm $\alpha = 150°$

$b = \frac{150^{5}}{360_{12}} \cdot 2 \cdot 6\,cm \cdot \pi = 5 \cdot \pi\ cm$

$r = \frac{b}{2 \cdot \pi} = \frac{5 \cdot \pi\ cm}{2 \cdot \pi} = 2{,}5\,cm$

$h = \sqrt{s^2 - r^2} = \sqrt{6^2 - 2{,}5^2} = \sqrt{29{,}75}\ cm$

$V = \frac{1}{3} \cdot r^2 \cdot \pi \cdot h = \frac{1}{3} \cdot (2{,}5\,cm)^2 \cdot \pi \cdot \sqrt{29{,}75}\,cm \approx 35{,}7\,cm^3$