434. Površine strana kvadra odnose se kao 3:6:10. Ako je volumen kvadra 150 cm^3, koliko mu je oplošje.

1. 180 cm^2 2. 190 cm^2 3. 225 cm^2 4. ne postoji takav kvadar

$P_1 : P_2 : P_3 = 3:6:10 \Rightarrow P_1 = 3k^2$

$\underline{V = 150\ cm^3}$ $P_2 = 6k^2$

$O = ?$ $P_3 = 10k^2$

$O = 2P_1 + 2P_2 + 2P_3$

$O = 2\cdot 3k^2 + 2\cdot 6k^2 + 2\cdot 10k^2$

$O = 6k^2 + 12k^2 + 20k^2$

$O = 38\cdot 5$

$O = 190\ cm^2$

$O = 38k^2$

$P_1 = ab$

$P_2 = bc$

$\underline{P_3 = ac}$

$3k^2 = ab$

$6k^2 = bc$ $\Big\}\cdot$

$10k^2 = ac$

$3k^2\cdot 6k^2\cdot 10k^2 = ab\cdot bc\cdot ac$

$180k^6 = a^2b^2c^2 \ /\sqrt{\ }$

$\sqrt{180k^6} = abc$ $V = abc$

$\sqrt{36\cdot 5}k^3 = 150$

$6\sqrt{5}k^3 = 150 : 6\sqrt{5}$

$k^3 = \dfrac{150}{6\sqrt{5}}$

$k^3 = \dfrac{25}{\sqrt{5}}\cdot\dfrac{\sqrt{5}}{\sqrt{5}}$

$k^3 = \dfrac{25\sqrt{5}}{5}$

$k^3 = 5\sqrt{5} \ /\sqrt[3]{\ }$

$k = \sqrt[3]{5\sqrt{5}}$

$k = \sqrt[3]{\sqrt{5^2\cdot 5}}$

$k = \sqrt[6]{5^3} = 5^{\frac{3}{6}} = 5^{\frac{1}{2}} = \sqrt{5}$

$k = \sqrt{5}$

$k^2 = 5$