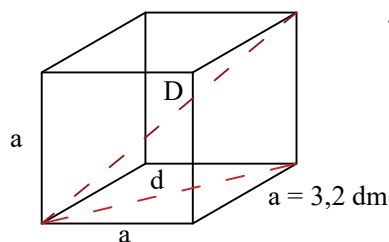


KOCKA (<https://hr.wikipedia.org/wiki/Kocka>)

Izvršite slijedeće zadatke:

1.) Izračunaj duljinu plosne i prostorne dijagonale kocke ako je duljina brida kocke 3,2 dm!



- plosna dijagonala d:

$$d = a \cdot \sqrt{2}$$

$$d = 3,2 \text{ dm} \cdot 1,41$$

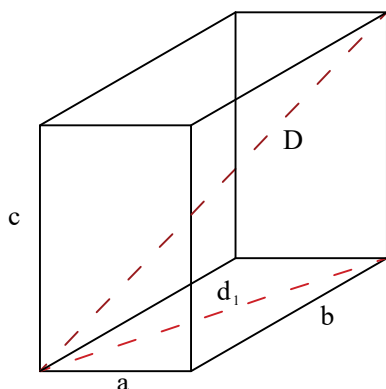
$$d = 4,5 \text{ dm}$$

- prostorna dijagonala D:

$$D = a \cdot \sqrt{3}$$

$$D = 3,2 \text{ dm} \cdot 1,73$$

$$D = 5,5 \text{ dm}$$

KVADAR (<https://hr.wikipedia.org/wiki/Kvadar>)- oplošje O: $O = 2 \cdot (a \cdot b + b \cdot c + a \cdot c)$ - volumen V: $V = a \cdot b \cdot c$ - plosna dijagonala (baza) d_1 : $d_1 = \sqrt{a^2 + b^2}$ - prostorna dijagonala D: $D = \sqrt{a^2 + b^2 + c^2}$

2.) Izračunaj oplošje kvadra ako su mu duljine dva brida 12 cm i 16 cm, a duljina prostorne dijagonale 52 cm!

$$a = 12 \text{ cm}$$

$$b = 16 \text{ cm}$$

$$D = 52 \text{ cm}$$

$$O = ?$$

$$D = \sqrt{a^2 + b^2 + c^2}$$

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

$$c^2 = D^2 - a^2 - b^2$$

$$c = \sqrt{D^2 - a^2 - b^2}$$

$$c = \sqrt{52^2 - 12^2 - 16^2}$$

$$c = \sqrt{2704 - 144 - 256}$$

$$c = \sqrt{2304}$$

$$c = 48 \text{ cm}$$

$$O = 2 \cdot (a \cdot b + b \cdot c + a \cdot c)$$

$$O = 2 \cdot (12 \cdot 16 + 16 \cdot 48 + 12 \cdot 48)$$

$$O = 2 \cdot (192 + 768 + 576)$$

$$O = 2 \cdot 1536$$

$$O = 3072 \text{ cm}^2$$

DOMAĆA ZADAĆA:

3.) Izračunaj duljinu prostorne dijagonale i svih plosnih dijagonala kvadra ako su mu duljine bridova:

$$a = 3 \text{ cm}$$

$$b = 4 \text{ cm}$$

$$c = 5 \text{ cm}$$

$$d_1 = ?$$

$$d_2 = ?$$

$$d_3 = ?$$

$$D = ?$$

