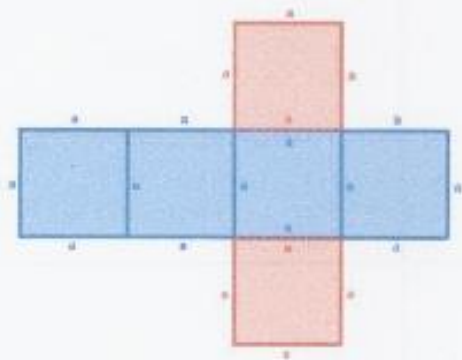
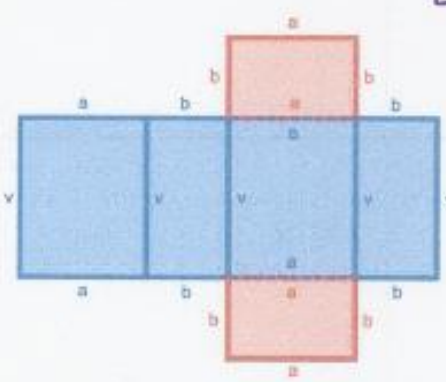
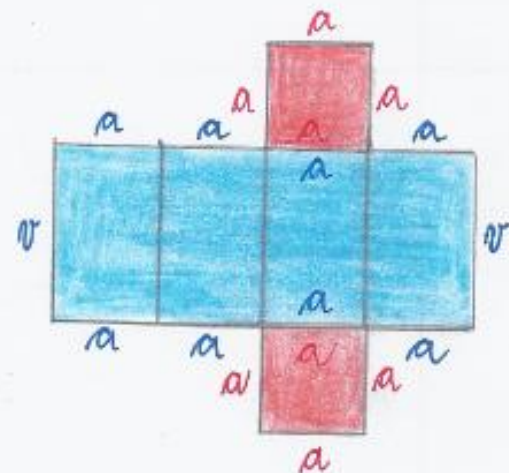


## MREŽA 4-STRANE PRIZME



osnovna ploskev

mreža telesa (skica)	$P = 2 \cdot O + pl$ ← plosč ↓ osnovna ploskev
<p>Kocka</p> 	$O = a^2$ $pl = 4a \cdot a = 4a^2$ $P = 6a^2$
<p>Kvader</p> <div style="border: 1px solid black; display: inline-block; padding: 2px; margin-left: 10px;"><math>r = v</math></div> 	$V = a \cdot b$ ali $V = ab$ $pl = (2a + 2b) \cdot r$ obseg osnovne ploskve · višina $P = 2ab + (2a + 2b) \cdot r$ ali $P = 2ab + 2ar + 2br$ ali $P = 2 \cdot (ab + ar + br)$
<p>Pravilna 4-strana prizma</p> 	$V = a^2$ $pl = 4 \cdot a \cdot r = 4ar$ $P = 2 \cdot a^2 + 4ar$

## REŠITVE NALOG IZ UČBENIKA SŠO 8

### KOCKA

14.

a)  $a = 9e$

$P = ?$   
 $V = ?$   
 $D = ?$

$P = 6a^2$   
 $P = 6 \cdot 9^2$   
 $P = 6 \cdot 81$   
 $P = 324e^2$

$V = a^3$   
 $V = 9^3$   
 $V = 729e^3$

$D = a\sqrt{3}$   
 $D = 9\sqrt{3}e$

b)  $P = 216e^2$

$a = ?$   
 $V = ?$   
 $D = ?$

$P = 6a^2$   
 $216 = 6a^2$   
 $6a^2 = 216 \quad | :6$   
 $a^2 = 36 \quad | \sqrt{\quad}$   
 $a = 6e$

$V = a^3$   
 $V = 6^3$   
 $V = 216e^3$

$D = a\sqrt{3}$   
 $D = 6\sqrt{3}e$

c)  $V = 1000e^3$

$a = ?$   
 $P = ?$   
 $D = ?$

$V = a^3$   
 $1000 = a^3$   
 $a^3 = 1000$   
 $a = 10e$ , ker je  $10 \cdot 10 \cdot 10 = 1000$

$P = 6a^2$   
 $P = 6 \cdot 10^2$   
 $P = 600e^2$

$D = a\sqrt{3}$   
 $D = 10\sqrt{3}e$

d)  $D = 15\sqrt{3}e$

$a = ?$   
 $P = ?$   
 $V = ?$

$D = a\sqrt{3}$   
 $15\sqrt{3} = a\sqrt{3} \quad | :\sqrt{3}$   
 $a = 15e$

$P = 6a^2$   
 $P = 6 \cdot 15^2$   
 $P = 6 \cdot 225$   
 $P = 1350e^2$

$V = a^3$   
 $V = 15^3$   
 $V = 3375e^3$

### KVADER

15.

a)  $a = 7e$

$b = 6e$

$c = 10e$

$P = ?$

$V = ?$

$P = 2 \cdot (ab + ac + bc)$   
 $P = 2 \cdot (7 \cdot 6 + 7 \cdot 10 + 6 \cdot 10)$   
 $P = 2 \cdot (42 + 70 + 60)$   
 $P = 2 \cdot 172$   
 $P = 344e^2$

$V = a \cdot b \cdot c$   
 $V = 7 \cdot 6 \cdot 10$   
 $V = 420e^3$

b.)  $a = 9e$        $V = a \cdot b \cdot c$        $P = 2 \cdot (ab + ac + bc)$   
 $b = 25e$        $420 = 9 \cdot 25 \cdot c$        $P = 2 \cdot (9 \cdot 25 + 9 \cdot 1,87 + 25 \cdot 1,87)$   
 $V = 420e^3$        $225c = 420$        $P = 2 \cdot (225 + 16,83 + 46,75)$   
 $c = ?$        $c = 1,87e$  ali       $P = 2 \cdot 288,58$   
 $P = ?$        $c = 1,9e$        $P = 577,16e^2$       (oziroma rešitev glede na podatke  $c = 1,9$ )

c.)  $b = 8e$        $V = a \cdot b \cdot c$        $P = 2 \cdot (ab + ac + bc)$   
 $c = 30e$        $1200 = a \cdot 8 \cdot 30$        $P = 2 \cdot (5 \cdot 8 + 5 \cdot 30 + 8 \cdot 30)$   
 $V = 1200e^3$        $240a = 1200 \quad | :240$        $P = 2 \cdot (40 + 150 + 240)$   
 $a = ?$        $a = 5e$        $P = 2 \cdot 430$   
 $P = ?$        $P = 860e^2$

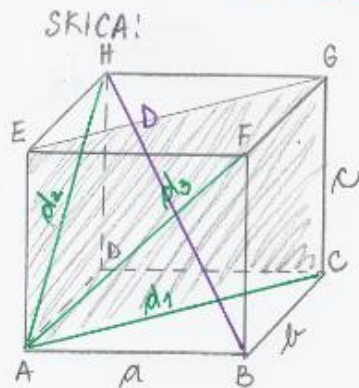
d.)  $a = 4e$        $P = 2 \cdot ab + 2 \cdot ac + 2 \cdot bc$        $V = abc$   
 $c = 15e$        $2 \cdot a \cdot b + 2 \cdot bc + 2ac = P \quad | -2ac$        $V = 4 \cdot 22,1 \cdot 15$   
 $P = 960e^2$        $2 \cdot a \cdot b + 2 \cdot bc = P - 2ac$        $V = 1326e^3$   
 $b = ?$        $b(2a + 2c) = P - 2ac \quad | : (2a + 2c)$   
 $V = ?$        $b = \frac{P - 2ac}{2a + 2c}$   
                   $b = \frac{960 - 2 \cdot 4 \cdot 15}{2 \cdot 4 + 2 \cdot 15}$   
                   $b = \frac{840}{8 + 30}$   
                   $b = 22,1e$

17. KVADER

$a = 6 \text{ cm}$   
 $b = 8 \text{ cm}$   
 $c = 10 \text{ cm}$

$P = ?$   
 $V = ?$   
 $W = ?$   
 $pl = ?$   
 $d_1 = ?$   
 $d_2 = ?$   
 $d_3 = ?$   
 $D = ?$

$pl_{\text{diag. preseka}} = ?$



$P = 2(ab + ac + bc)$        $V = abc$   
 $P = 2(6 \cdot 8 + 6 \cdot 10 + 8 \cdot 10)$        $V = 6 \cdot 8 \cdot 10$   
 $P = 2(48 + 60 + 80)$        $V = 480 \text{ cm}^3$   
 $P = 2 \cdot 188$   
 $P = 376 \text{ cm}^2$

$W = ab$        $pl = (2a + 2b) \cdot c$   
 $W = 6 \cdot 8$        $pl = (2 \cdot 6 + 2 \cdot 8) \cdot 10$   
 $W = 48 \text{ cm}^2$        $pl = (12 + 16) \cdot 10$   
                   $pl = 28 \cdot 10$   
                   $pl = 280 \text{ cm}^2$



$$d_1 = \sqrt{a^2 + b^2}$$

$$d_1 = \sqrt{6^2 + 8^2}$$

$$d_1 = \sqrt{36 + 64}$$

$$d_1 = \sqrt{100}$$

$$d_1 = 10 \text{ cm}$$

$$d_2 = \sqrt{b^2 + c^2}$$

$$d_2 = \sqrt{8^2 + 10^2}$$

$$d_2 = \sqrt{64 + 100}$$

$$d_2 = \sqrt{164}$$

$$d_2 = 12,8 \text{ cm}$$

$$d_3 = \sqrt{a^2 + c^2}$$

$$d_3 = \sqrt{6^2 + 10^2}$$

$$d_3 = \sqrt{36 + 100}$$

$$d_3 = \sqrt{136}$$

$$d_3 = 11,7 \text{ cm}$$

(oznake diagonal  $d_1, d_2, d_3$  so lahko tudi zamenjane)

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

$$D = \sqrt{6^2 + 8^2 + 10^2}$$

$$D = \sqrt{36 + 64 + 100}$$

$$D = \sqrt{200}$$

$$D = 10\sqrt{2} \text{ cm}$$

$$p_{d.p.} = d_1 \cdot c$$

$$p_{d.p.} = 10 \cdot 10$$

$$p_{d.p.} = 100 \text{ cm}^2$$

18. KOCKA

$$a = 4 \text{ dm}$$

$$P = ?$$

$$V = ?$$

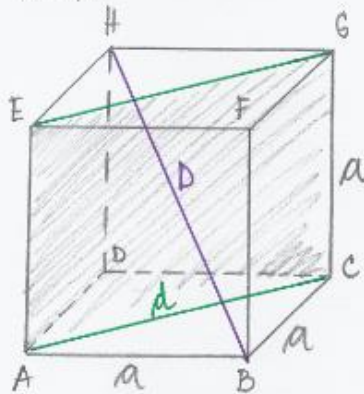
$$pl = ?$$

$$d = ?$$

$$D = ?$$

$$p_{d.p.} = ?$$

SKICA:



$$P = 6a^2$$

$$P = 6 \cdot 4^2$$

$$P = 6 \cdot 16$$

$$P = 96 \text{ dm}^2$$

$$V = a^3$$

$$V = 4^3$$

$$V = 64 \text{ dm}^3$$

$$pl = 4a \cdot a$$

$$pl = 4 \cdot 4^2$$

$$pl = 4 \cdot 16$$

$$pl = 64 \text{ dm}^2$$

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

$$d = 4\sqrt{2} \text{ dm}$$

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

$$D = 4\sqrt{3} \text{ dm}$$

$$p_{d.p.} = da$$

$$p_{d.p.} = 4\sqrt{2} \cdot 4$$

$$p_{d.p.} = 16\sqrt{2} \text{ dm}^2$$

(220) KVADER

$pl = 70 \text{ cm}^2$

$a = 3 \text{ cm}$

$b = 4 \text{ cm}$

$V = ?$

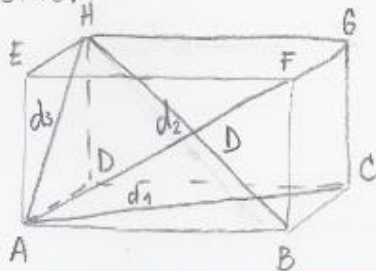
$d_1 = ?$

$d_2 = ?$

$d_3 = ?$

$D = ?$

SKICA:



$d_1 = \sqrt{a^2 + b^2}$

$d_2 = \sqrt{a^2 + c^2}$

$d_1 = \sqrt{3^2 + 4^2}$

$d_2 = \sqrt{3^2 + 5^2}$

$d_1 = \sqrt{9 + 16}$

$d_2 = \sqrt{9 + 25}$

$d_1 = \sqrt{25}$

$d_2 = \sqrt{34}$

$d_1 = 5 \text{ cm}$

$d_2 = 5,8 \text{ cm}$

$d_3 = \sqrt{b^2 + c^2}$

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

$d_3 = \sqrt{4^2 + 5^2}$

$D = \sqrt{3^2 + 4^2 + 5^2}$

$d_3 = \sqrt{16 + 25}$

$D = \sqrt{9 + 16 + 25}$

$d_3 = \sqrt{41}$

$D = \sqrt{50}$

$d_3 = 6,4 \text{ cm}$

$D = \sqrt{25 \cdot 2}$

$d_3 = 6,4 \text{ cm}$

$D = 5\sqrt{2} \text{ cm}$

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

$70 = (2 \cdot 3 + 2 \cdot 4) \cdot c$

$70 = 14 \cdot c$

$14 \cdot c = 70 \quad | :14$

$c = 5 \text{ cm}$

$V = a \cdot b \cdot c$

$V = 3 \cdot 4 \cdot 5$

$V = 60 \text{ cm}^3$

! DELNO KORENENJE