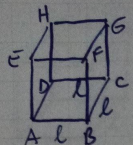


MATEMATICA



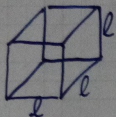
- RISOLUZIONE DEGLI ESERCIZI ASSEGNATI PER CASA IL 24 MARZO
- FORMULARIO DI GEOMETRIA SOLIDA
- NUOVI ESERCIZI DI RIPASSO E CONSOLIDAMENTO PER IL TEST ONLINE DEL 3 APRILE



DATI
 $l = 18 \text{ cm}$
 $A_t = ?$
 $V = ?$

$$A_t = 6 \cdot l^2 = 6 \cdot 18^2 = 6 \cdot 324 = 1944 \text{ cm}^2$$

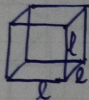
$$V = l^3 = 18^3 = 5832 \text{ cm}^3$$



DATI
 $l = 5 \text{ cm}$
 $A_t = ?$
 $A_l = ?$
 $A_t = ?$

$$A_l = 4 \cdot l^2 = 4 \cdot 5^2 = 4 \cdot 25 = 100 \text{ cm}^2$$

$$A_t = 6 \cdot l^2 = 6 \cdot 5^2 = 6 \cdot 25 = 150 \text{ cm}^2$$



DATI
 $l = 14 \text{ cm}$
 $p.s. = 2,5 \text{ kg/dm}^3$
 $A_t = ?$
 $V = ?$
 $P = ?$

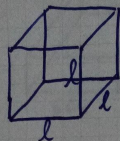
$$A_t = 6 \cdot l^2 = 6 \cdot 14^2 = 6 \cdot 196 = 1176 \text{ cm}^2$$

$$V = l^3 = 14^3 = 2744 \text{ cm}^3$$

$$p.s. = 2,5 \text{ kg/dm}^3 = 2,5 \text{ g/cm}^3$$

$$p.s. = \frac{P}{V} \rightarrow P = p.s. \cdot V$$

$$P = 2,5 \text{ g/cm}^3 \cdot 2744 \text{ cm}^3 = 6860 \text{ g}$$



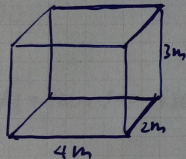
DATI
 $l = 22,4 \text{ cm}$
 $A_t = ?$
 $V = ?$
 $P = ?$
 $p.s. = 0,25 \text{ kg/dm}^3$

$$A_t = 6 \cdot l^2 = 6 \cdot (22,4)^2 = 6 \cdot 501,76 = 3010,56 \text{ cm}^2$$

$$V = l^3 = (22,4)^3 = 11239,424 \text{ cm}^3$$

$$P = p.s. \cdot V$$
$$p.s. = 0,25 \text{ kg/dm}^3 = 0,25 \text{ g/cm}^3$$

$$P = 0,25 \frac{\text{g}}{\text{cm}^3} \cdot 11239,424 \text{ cm}^3 = 2809,856 \text{ g}$$

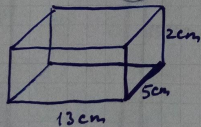


$$A_t = A_l + 2 \cdot A_b$$

$$A_l = p \cdot h = (4 + 4 + 2) \cdot 3 = 36 \text{ m}^2$$

$$A_b = 4 \text{ m} \cdot 2 \text{ m} = 8 \text{ m}^2$$

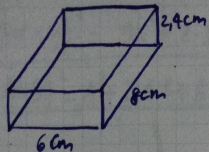
$$A_t = 36 \text{ m}^2 + 2 \cdot 8 \text{ m}^2 = 36 + 16 = 52 \text{ m}^2$$



$$V = A_b \cdot h$$

$$A_b = 13 \text{ cm} \cdot 5 \text{ cm} = 65 \text{ cm}^2$$

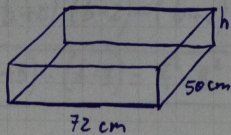
$$V = 65 \text{ cm}^2 \cdot 2 \text{ cm} = 130 \text{ cm}^3$$



$$A_l = p \cdot h$$

$$p = 6 + 8 + 6 + 8 = 28 \text{ cm}$$

$$A_l = 28 \text{ cm} \cdot 2,4 \text{ cm} = 67,2 \text{ cm}^2$$



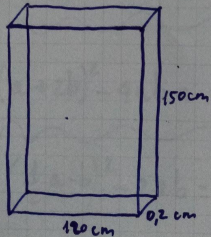
$$p.s. = 2 \text{ g/cm}^3$$

$$P = 86400 \text{ g}$$

$$h = ?$$

$$V = \frac{P}{p.s.} = \frac{86400 \text{ g}}{2 \text{ g/cm}^3} = 43200 \text{ cm}^3$$

$$A_b = 72 \text{ cm} \cdot 50 \text{ cm} = 3600 \text{ cm}^2 \quad h = \frac{V}{S_b} = \frac{43200 \text{ cm}^3}{3600 \text{ cm}^2} = 12 \text{ cm}$$



$$p.s. = 2,5 \text{ g/cm}^3$$

$$P = ?$$

$$P = V \cdot p.s.$$

$$V = A_b \cdot h \quad A_b = 120 \text{ cm} \cdot 0,2 = 24 \text{ cm}^2$$

$$V = 24 \text{ cm}^2 \cdot 150 \text{ cm} = 3600 \text{ cm}^3$$

$$P = 3600 \text{ cm}^3 \cdot 2,5 \frac{\text{g}}{\text{cm}^3} = 9000 \text{ g}$$

$$(3x+y)^2 = 9x^2 + 2 \cdot 3x \cdot y + y^2 = 9x^2 + 6xy + y^2$$

$$(A+B)^2 = A^2 + 2 \cdot A \cdot B + B^2 \rightarrow (-2x+3y)^2 = (-2x)^2 + 2 \cdot (-2x) \cdot (3y) + (3y)^2 = 4x^2 - 12xy + 9y^2$$

$$(b+2) \cdot (b-2) - (b+2)^2 = b^2 - 4 - (b^2 + 4b + 4) = b^2 - 4 - b^2 - 4b - 4 = -4b - 8$$

$$(A+B) \cdot (A-B) = A^2 - B^2$$

$$(A-B)^2 = A^2 - 2AB + B^2$$

$$(x-a) \cdot (x+a) - (x-2a)^2 = x^2 - a^2 - (x^2 - 4ax + 4a^2) = x^2 - a^2 - x^2 + 4ax - 4a^2 = -5a^2 + 4ax$$

$$(A-B) \cdot (A+B) = A^2 - B^2$$

$$(a+2b)^2 - 4ab = a^2 + 4ab + 4b^2 - 4ab = a^2 + 4b^2$$

$$\left(\frac{1}{2}a-b\right)^2 - 2ab = \frac{1}{4}a^2 - \frac{1}{2}a \cdot b + b^2 - 2ab = \frac{1}{4}a^2 - \frac{1}{2}ab + b^2 - 2ab = \frac{1}{4}a^2 - 3ab + b^2$$

$$(a+3)(a-3) - (a+3)^2 = a^2 - 9 - (a^2 + 6a + 9) = a^2 - 9 - a^2 - 6a - 9 = -6a - 18$$

$$(2a+1)^2 - (2a-2)(2a+2) - 5 = 4a^2 + 4a + 1 - (4a^2 - 4) - 5 = 4a^2 + 4a + 1 - 4a^2 + 4 - 5 = 4a$$

$$(t+5)^2 + (5-2t)(5+2t) - 10t = t^2 + 10t + 25 + (25 - 4t^2) - 10t = t^2 + 10t + 25 + 25 - 4t^2 - 10t = -3t^2 + 50$$

$$(2x+1)^2 + (x+1)(x-1) - (x+2)(x-2) = 4x^2 + 4x + 1 + (x^2 - 1) - (x^2 - 4) = 4x^2 + 4x + 1 + x^2 - 1 - x^2 + 4 = 4x^2 + 4x + 4$$

$$n^{\circ} 582 \quad 3x + 2x = 15$$

$$5x = 15$$

$$x = \frac{15}{5} = x = 3$$

$$4x + x = 7 + 3$$

$$5x = 10$$

$$x = \frac{10}{5} = 2$$

n^o 589

$$2 \cdot (x+1) - 3 = 12x - 12$$

$$2x + 2 - 3 = 12x - 12$$

$$2x - 12x = -12 - 2 + 3$$

$$-10x = -11$$

$$x = \frac{-11}{-10} = +\frac{11}{10}$$

n^o 595

$$11 \cdot (12 - x) - 30 = 20x + 59 - 6 \cdot (4x - 13)$$

$$132 - 11x - 30 = 20x + 59 - 24x + 78$$

$$-20x - 11x + 24x = +59 + 78 - 132 + 30$$

$$-7x = +35$$

$$x = \frac{+35}{-7} = -5$$

n° 622

$$\frac{1}{6}x + 1 = \frac{1}{2}x - \frac{2}{3}$$

$$\text{m.c.m.}(2; 3; 6) = 6$$

$$\cancel{6} \cdot \frac{1}{\cancel{6}}x + 6 \cdot 1 = \cancel{6} \cdot \frac{1}{\cancel{2}}x - \cancel{6} \cdot \frac{2}{\cancel{3}}$$

$$x + 6 = 3x - 4$$

$$x - 3x = -4 - 6$$

$$-2x = -10 \rightarrow x = \frac{-10}{-2} = +5$$

$$\frac{1}{6}x + \frac{2}{3}x = 15$$

$$\text{m.c.m.}(3; 6) = 6$$

$$\cancel{6} \cdot \frac{1}{\cancel{6}}x + \cancel{6} \cdot \frac{2}{\cancel{3}}x = 6 \cdot 15$$

$$x + 4x = 90$$

$$5x = 90$$

$$x = \frac{90}{5} = 18$$

FORMULARIO DI GEOMETRIA SOLIDA

(solo le formule studiate)

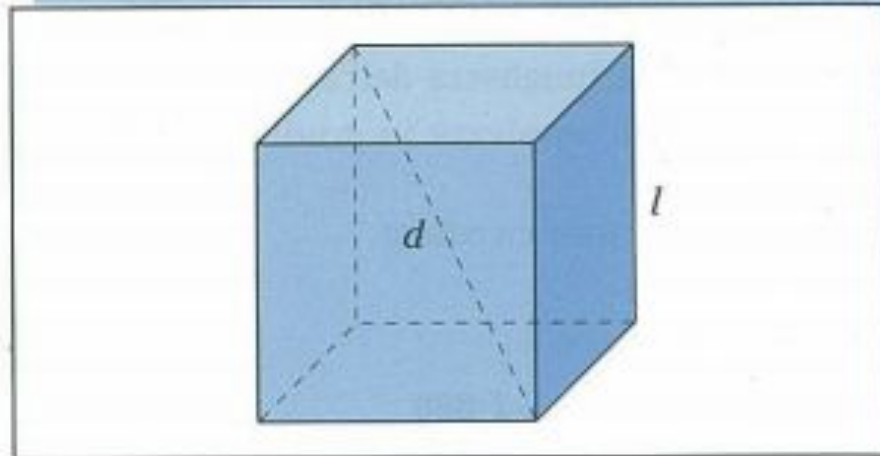
Cubo

$$S_l = 4 \cdot l^2$$

$$S_t = 6 \cdot l^2$$

$$V = l^3$$

$$l = \sqrt[3]{V}$$

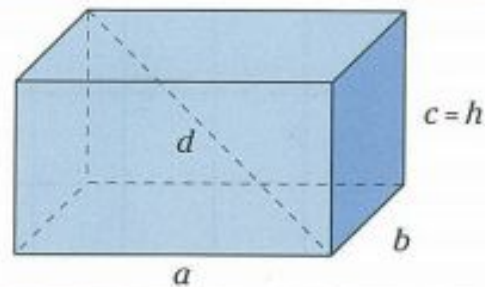


Parallelepipedo rettangolo _____

$$S_l = p_b \cdot h \quad h = \frac{V}{A_b} \quad A_b = \frac{V}{h}$$

$$S_t = S_l + 2A_b$$

$$V = A_b \cdot h = a \cdot b \cdot c$$

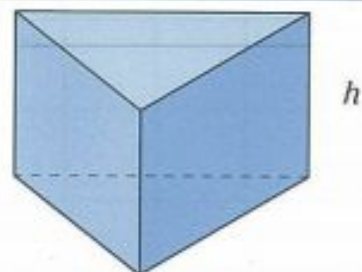


Prisma retto _____

$$S_l = p_b \cdot h \quad p_b = \frac{S_l}{h} \quad h = \frac{S_l}{p_b}$$

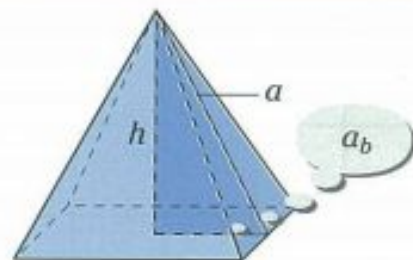
$$S_t = S_l + 2 \cdot A_b$$

$$V = A_b \cdot h \quad A_b = \frac{V}{h} \quad h = \frac{V}{A_b}$$



Piramide retta _____

$$a = \sqrt{h^2 + a_b^2} \quad a_b = \sqrt{a^2 - h^2} \quad h = \sqrt{a^2 - a_b^2}$$



NUOVI ESERCIZI DI RIPASSO E CONSOLIDAMENTO PER IL TEST DEL 3 APRILE

Risolvi le seguenti equazioni.

11 $20x - 2(x - 3) = 2 - 3(2x + 4 - 4x)$



$$\left[-\frac{4}{3} \right]$$

12 $5(3x + 2) - 3x - 3(6x - 5) = 5$



$$\left[\frac{10}{3} \right]$$

17 $3 - \frac{2(x-2)}{3} - 5x = 5(1-x)$

[-1]

Semplifica le seguenti espressioni.

41 $(x+2)(x-2) - (2-x)^2 - 2^3(x-1)$

[-4x]

42 $(2x-2)^2 - (1-8x)(2+8x) - 4(4x+1)(4x-1)$

[4x² + 6]

2 Un blocco di ghiaccio (densità = 0,91 g/cm³) ha la forma di un cubo con lo spigolo di 12 cm. Quanto pesa circa?

- A 864 g B 576 g C 1000 g D 1,6 kg

3 Un mattone ha le seguenti dimensioni: 250 mm × 12 cm × 50 mm.

Calcola il suo volume:

- A 15 cm³ C 150 cm³
 B 15 000 cm³ D 1500 cm³

9 Calcola la misura dell'apotema della piramide retta a base quadrangolare rappresentata in figura.

- A** 36 cm
- B** 24 cm
- C** 20 cm
- D** 15 cm



Calcola l'**area laterale**, l'**area totale** e il **volume** di un prisma alto 10 cm avente per base un triangolo rettangolo i cui cateti e l'ipotenusa misurano nell'ordine 3 cm, 4 cm e 5 cm.

Calcola il **volume** di un parallelepipedo che ha le dimensioni di base di 3 cm e 7 cm e l'altezza pari allo spigolo di un cubo che ha il volume di 8 cm^3 .

Calcola l'**area totale** e il **volume** di un cubo di spigolo 4 cm.