

# CORREZIONE

# ALGEBRA E GEOMETRIA

Esercizi della settimana dal 20 marzo al 27 marzo.

# ALGEBRA

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$$a \cdot (b+c) = ab+ac$$

$$3x(x-y) = 3x^2 - 3xy$$

$$2a \cdot (a^2 - b + 1) = 2a^3 - 2ab + 2a$$

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$$4x \cdot (a + b - 2c) = 4ax + 4bx - 8xc$$

$$(-3x^2) \cdot (x^2 + 4x^3 - 1) = -3x^4 - 12x^5 + 3x^2$$

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$$x^3 \cdot (x^2 - 2x + 7) = x^5 - 2x^4 + 7x^3$$

$$2y(3x^3y^2 - 2xy^2) = 6x^3y^3 - 4xy^3$$

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$$-3a^4b \cdot (2a^3b^2 - ab + 4) = -6a^7b^3 + 3a^5b^2 - 12a^4b$$

$$(3a^2b - ab^2 + ab^2) \cdot (-a^3b^3) = -3a^5b^4 + a^4b^5 - 4a^3b^5$$

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$$(x + 2y^2 + 3y^4) \cdot \left(-\frac{1}{3}xy\right) =$$
$$= \cancel{f} - \frac{1}{3}x^2y - \frac{2}{3}xy^3 - xy^5$$

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

(261)

$$-4x^2y \cdot \left(x - \frac{1}{2}y\right) = -4x^3y + 2x^2y^2$$

$$\left(-a^3b + a^2 - \frac{1}{5}b\right) \cdot 6ab = -6a^4b^2 + 6a^3b - \frac{6}{5}ab^2$$

(262)

$$\frac{5}{a}ab \cdot \left(\frac{6}{5}a^3b^2 - \frac{1}{5}a^3b - \frac{7}{10}ab^4 + 1\right) =$$
$$= \frac{3}{2}a^4b^3 - \frac{1}{4}a^4b^2 - \frac{7}{8}a^2b^5 + \frac{5}{a}ab$$

(263)

$$\frac{2}{3}a^3 \cdot \left(9c^2b^2 + 12ab - \frac{1}{a}a^2\right) =$$
$$= 6a^5b^2 + 8a^4b - \frac{1}{6}a^5$$

(264)

$$\frac{1}{2}xy^2 \cdot \left(2xy - \frac{1}{3}y^2 + \frac{1}{4}x^2y^2\right) =$$
$$= x^2y^3 - \frac{1}{6}xy^4 + \frac{1}{8}x^3y^4$$

(265)

$$-3a^2b^2c^2 \cdot \left(-\frac{1}{3}a^2 + \frac{1}{2}b^2c^2 - 1c^3\right) =$$
$$= +a^4b^2c^2 - \frac{3}{2}a^2b^4c^4 + 3a^2b^2c^5$$

(266)

$$\frac{2}{3}a^2b^2 \cdot \left(2a^2c^2 - 3b^2c^2 - \frac{1}{2}a^3b^3\right) =$$
$$\frac{4}{3}a^4b^2c^2 - 2a^2b^4c^2 - \frac{1}{3}a^5b^5$$

$$\frac{3}{2}x^2y - [2x^2 - (-x) \cdot (-3y - 4)] \cdot (-\frac{1}{2}x) + (12x^3 - 16x^4) : (-2x)$$

$$= \frac{3}{2}x^2y - [2x^2 + x \cdot (-3y - 4)] \cdot (-\frac{1}{2}x) + (-6x^2 + 8x^3) =$$

$$= \frac{3}{2}x^2y - [2x^2 - 3xy - 4x] \cdot (-\frac{1}{2}x) - 6x^2 + 8x^3 =$$

$$= \frac{3}{2}x^2y + [-2x^2 + 3xy + 4x] \cdot (-\frac{1}{2}x) - 6x^2 + 8x^3 =$$

$$= \cancel{\frac{3}{2}x^2y} + \cancel{x^3} - \cancel{\frac{3}{2}x^2y} - 2x^2 - 6x^2 + \underline{8x^3} =$$

$$9x^3 - 8x^2$$

# GEOMETRIA

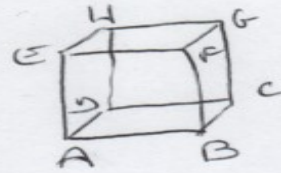
## GEOMETRIA 3D

Nº 130

$$P = 6,9$$

$$S_T = 54 \text{ dm}^2$$

$$\text{Kg peso} = ?$$



$$AB = \sqrt{S_T : 6} = \sqrt{54 : 6} = \sqrt{9} = 3 \text{ dm}$$

$$V = AB^3 = 3^3 = 27 \text{ dm}^3$$

$$P = V \cdot ps = 27 \cdot 6,9 = 186,3 \text{ Kg}$$

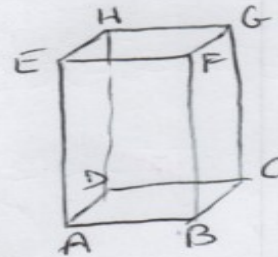
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$$P = 108 \text{ g}$$

$$S_T = 88 \text{ cm}^2$$

$$AB = 2 \text{ cm}$$

$$ps = ?$$



$$A_b = 2^2 = 4 \text{ cm}^2$$

$$P_b = 2 \times 4 = 8 \text{ cm}$$

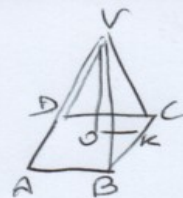
$$S_L = S_T - 2A_b = 88 - (4 \times 2) = 80 \text{ cm}^2$$

$$BF = S_L : P_b = 80 : 8 = 10 \text{ cm}$$

$$V = A_b \cdot h = 4 \cdot 10 = 40 \text{ cm}^3$$

$$ps = P : V = 108 : 40 = 2,7$$

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$$P_s = 0,55$$

$$P = 1,32 \text{ kg}$$

$$V_0 = 8 \text{ cm}$$

$$S_T = ?$$

Poiché le lunghezze sono espresse in cm e il peso in kg, occorre fare un'equivalenza:

$$1,32 \text{ kg} = 1320 \text{ g}$$

$$V = P : P_s = 1320 : 0,55 = 2400 \text{ cm}^3$$

$$A_b = \frac{V \times 3}{h} = \frac{2400 \cdot 3}{8} = 900 \text{ cm}^2$$

$$AB = \sqrt{900} = 30 \text{ cm}$$

$$OK = 30 : 2 = 15 \text{ cm}$$

$$VK = \sqrt{V_0^2 + OK^2} = \sqrt{64 + 225} = \sqrt{289} = 17 \text{ cm}$$

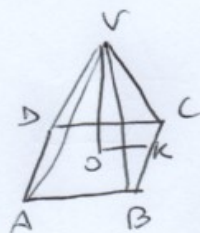
$$P_b = AB \cdot 4 = 30 \cdot 4 = 120 \text{ cm}$$

$$S_L = \frac{P_b \cdot h}{2} = \frac{120 \cdot 17}{2} = 1020 \text{ cm}^2$$

$$S_T = S_L + A_b = 1020 + 900 = 1920 \text{ cm}^2$$

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$$p_s = 0,8$$

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

$$P = 3,2 \text{ kg}$$

$$S_T = ?$$

$$A_b = 10 \times 10 = 100 \text{ cm}^2$$

$$P_b = 10 \times 4 = 40 \text{ cm}$$

perché  $P_e$  in kg, devo trasformare in g =

$$3,2 \text{ kg} = 320 \text{ g}$$

$$V = P : p_s = 320 : 0,8 = 400 \text{ cm}^3$$

$$v_o = \frac{V \cdot 3}{A_b} = \frac{400 \cdot 3}{100} = 12 \text{ cm}$$

$$o_k = AB : 2 = 10 : 2 = 5 \text{ cm}$$

$$v_k = \sqrt{v_o^2 + o_k^2} = \sqrt{144 + 25} = \sqrt{169} = 13 \text{ cm}$$

$$S_L = \frac{P_b \cdot o}{2} = \frac{40 \cdot 13}{2} = 260 \text{ cm}^2$$

$$S_T = S_L + A_b = 260 + 100 = 360 \text{ cm}^2$$

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