

ESERCIZI ASSEGNATI PER LE VACANZE NATALIZIE

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23. $\frac{1}{7} x^3 y^2 (-7 x z^2) (-2 x y^2) - 4 x y z^2 \left(-\frac{1}{2} x^2\right) (+x^2 y^3) = 2 x^5 y^4 z^2 + 2 x^5 y^4 z^2 = 4 x^5 y^4 z^2$
24. $0,3 x^2 y \left(-\frac{5}{6} x y\right) \frac{1}{2} x y^2 - \frac{2}{3} x^2 y^2 (+4 x^2 y^2) = -\frac{1}{8} x^4 y^4 - \frac{8}{3} x^4 y^4 = -\frac{67}{24} x^4 y^4$
25. $\frac{3}{4} a x \left(-\frac{1}{3} a x^2\right) \cdot (-9 a^2 x^2) + \frac{5}{2} a^3 x \left(-\frac{4}{15} a x^4\right) = +\frac{9}{4} a^4 x^5 - \frac{2}{3} a^4 x^5 = \frac{19}{12} a^4 x^5$
27. $\frac{3}{5} a^2 b (-0,3a) + \frac{2}{5} b \left(-\frac{1}{2} a^3\right) + ab (-0,2b) - ab^2 = -\frac{1}{5} a^3 b - \frac{1}{5} a^3 b - \frac{1}{5} a b^2 - ab^2 = -\frac{2}{5} a^3 b - \frac{6}{5} a b^2$

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30. $(2a)^2 \cdot (-b)^3 + (-ab)^2 \cdot (-3b) = 4a^2 \cdot (-b^3) + a^2 b^2 \cdot (-3b) = -4a^2 b^3 - 3a^2 b^3 = -7a^2 b^3$
31. $(-3a^2 x)^3 \cdot (-ax)^2 - (-ax)^5 (3a)^3 = 27 a^6 x^3 (a^2 x^2) + a^5 x^5 (27 a^3) = 27 a^8 x^5 - 27 a^8 x^5 = 0$
33. $[(-2ab^2)^2 - (-2a)^2 (-b)^4]^3 = [4a^2 b^4 - 4a^2 b^4]^3 = 0^3 = 0$
34. $-[-a(-2b)^3 (-a)^2]^2 + (-2ab)^6 = -[+2^3 a^3 b^3]^2 + 2^6 a^6 b^6 = -2^6 a^6 b^6 + 2^6 a^6 b^6 = 0$
38. $(-3x^3) \left(-\frac{1}{3} x^2\right)^2 (-2x) - \left(\frac{1}{2} x^3\right)^2 (-x)^2 = +\frac{2}{3} x^8 - \frac{1}{4} x^8 = \frac{5}{12} x^8$
40. $(-2x^2)^2 \left(+\frac{1}{2} y\right)^2 - \left(-\frac{1}{3} x^2 y\right)^2 - (-3x^2) \left(\frac{2}{3} x y\right)^2 = x^4 y^2 - \frac{1}{9} x^4 y^2 + \frac{4}{3} x^4 y^2 = \frac{20}{9} x^4 y^2$
42. $-(0,2a^3)^2 (a^2 b)^2 - 0,2 a^2 (-a^4 b)^2 + (0,1 a^4)^2 (-3ab)^2 = -\frac{1}{25} a^{10} b^2 - \frac{1}{5} a^{10} b^2 + \frac{9}{100} a^{10} b^2 = -\frac{3}{20} a^{10} b^2$
44. $\left(+\frac{3}{2} a^2\right)^2 (-a^2 b) - \frac{1}{2} (a^3)^2 b - 3a^2 b \left(-\frac{1}{2} a\right)^4 =$
 $= +\frac{9}{4} a^4 (-a^2 b) - \frac{1}{2} a^6 b - 3a^2 b \left(\frac{1}{16} a^4\right) = -\frac{9}{4} a^6 b - \frac{1}{2} a^6 b - \frac{3}{16} a^6 b = -\frac{47}{16} a^6 b$
45. $[-(2m^2 n)^2]^2 - (+5m^2 n)^4 \left(-\frac{1}{5}\right)^2 + [(-m^2 n)^2]^2 =$
 $= 16m^8 n^4 - 5^4 m^8 n^4 \cdot \frac{1}{5^2} + m^8 n^4 = 16m^8 n^4 - 25m^8 n^4 + m^8 n^4 = -8m^8 n^4$
48. $-(-a^{2n})^3 + (-a^{3n})^2 + (a^6)^n + (-a^n)^6 = -(-a^{6n}) + a^{6n} + a^{6n} + a^{6n} = a^{6n} + 3a^{6n} = 4a^{6n}$
49. $(-2a^n)^2 (-3ab^m)^2 + (-2a^n b^m)^2 (-3a^2) = 4a^{2n} (9a^2 b^{2m}) + 4a^{2n} b^{2m} (-3a^2) =$
 $= 36a^{2n+2} b^{2m} - 12a^{2n+2} b^{2m} = 24a^{2n+2} b^{2m}$

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14. $\{-a^4 b^5 c^2 - [-a^4 b^5 c^2 - (+2a^4 b^5 c^2)]\} : (-7a^3 c^2 + 5a^3 c^2) =$
 $= \{-a^4 b^5 c^2 - (-3a^4 b^5 c^2)\} : (-2a^3 c^2) = (2a^4 b^5 c^2) : (-2a^3 c^2) = -ab^5$
15. $\{-2xy^3 - [xy^3 - (-5xy^3)] - 3xy^3\} : (-xy + 4xy) = \{-2xy^3 - xy^3 - 5xy^3 - 3xy^3\} : (3xy) =$
 $= (-11xy^3) : (3xy) = -\frac{11}{3} y^2$
16. $-\left\{-\left[-\left(-\frac{1}{3} a^2 b\right) - 3 a^2 b\right] + \frac{1}{2} a^2 b\right\} : \left[-\frac{4}{3} ab - (-ab)\right] =$
 $= -\left\{-\left[\frac{1}{3} a^2 b - 3 a^2 b\right] + \frac{1}{2} a^2 b\right\} : \left[-\frac{4}{3} ab + ab\right] =$
 $= -\left\{+\frac{8}{3} a^2 b + \frac{1}{2} a^2 b\right\} : \left[-\frac{1}{3} ab\right] = -\left(+\frac{19}{6} a^2 b\right) : \left[-\frac{1}{3} ab\right] = +\frac{19}{6} \cdot \frac{3}{1} a = \frac{19}{2} a$

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- a. $\frac{1}{4} x^5 y^7 : \left(-\frac{3}{2} xy\right) = \frac{1}{4} \cdot \left(-\frac{2}{3}\right) x^4 y^6 = -\frac{1}{6} x^4 y^6$
- b. $\left[-\left(\frac{1}{2} a^2 x\right)^2\right]^0 + 1 = 1 + 1 = 2$ ESATTO, perché qualsiasi numero diverso da 0, con esponente 0 fa 1
- c. $\left(\frac{1}{2} x^2\right)^4 : x^2 - (x^2 y)^0 = \frac{1}{16} x^8 : x^2 - 1 = \frac{1}{16} x^6 - 1$
- d. $\left(\frac{1}{2} x^2 y^3\right)^3 : \left(\frac{1}{2} x^2 y^3\right)^2 - \left(\frac{1}{2} x^2 y^3\right)^0 = \frac{1}{2} x^2 y^3 - 1$ ESATTO

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