

ESERCIZI ASSEGNATI PER LE VACANZE NATALIZIE
ESERCIZI DI RIEPILOGO IN \mathbb{R}_0^+

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$$21. \sqrt{72} + \sqrt{8} - \sqrt{18} = 6\sqrt{2} + 2\sqrt{2} - 3\sqrt{2} = 5\sqrt{2}$$

$$\sqrt{90} - \sqrt{40} = 3^{\frac{2}{2}} \cdot 10^{\frac{1}{2}} - 2^{\frac{2}{2}} \cdot 10^{\frac{1}{2}} = 3\sqrt{10} - 2\sqrt{10} = \sqrt{10}$$

$$22. \sqrt{125} + \sqrt{180} - 3\sqrt{20} = 5\sqrt{5} + 6\sqrt{5} - 6\sqrt{5} = 5\sqrt{5}$$

$$2\sqrt{5} - \sqrt{45} = 2\sqrt{5} - 3\sqrt{5} = -\sqrt{5}$$

$$23. \sqrt{32} + 2\sqrt{18} - 3\sqrt{50} = 4\sqrt{2} + 6\sqrt{2} - 15\sqrt{2} = -5\sqrt{2}$$

$$\sqrt{243} - \sqrt{12} = 9\sqrt{3} - 2\sqrt{3} = 7\sqrt{3}$$

$$24. \sqrt{125} + \sqrt{45} - \sqrt{20} = 5\sqrt{5} + 3\sqrt{5} - 2\sqrt{5} = 6\sqrt{5}$$

$$2\sqrt{45} - 3\sqrt{20} + \sqrt{500} = 6\sqrt{5} - 6\sqrt{5} + 10\sqrt{5} = 10\sqrt{5}$$

$$25. \sqrt{\frac{9}{8}} - \sqrt{\frac{49}{18}} + \sqrt{\frac{81}{50}} = \frac{3}{2\sqrt{2}} - \frac{7}{3\sqrt{2}} + \frac{9}{5\sqrt{2}} = \frac{45 - 70 + 54}{30\sqrt{2}} = \frac{29}{30\sqrt{2}}$$

$$\sqrt{\frac{3}{4}} - \sqrt{\frac{27}{25}} + \sqrt{\frac{75}{36}} = \frac{1}{2}\sqrt{3} - \frac{3}{5}\sqrt{3} + \frac{5}{6}\sqrt{3} = \frac{15 - 18 + 25}{30}\sqrt{3} = \frac{11}{15}\sqrt{3}$$

$$26. 2\sqrt[3]{3} + \sqrt[3]{81} - 4\sqrt[3]{3} = 2\sqrt[3]{3} + 3\sqrt[3]{3} - 4\sqrt[3]{3} = \sqrt[3]{3}$$

$$\sqrt[3]{16} - 4\sqrt[3]{250} + 3\sqrt[3]{54} = 2\sqrt[3]{2} - 20\sqrt[3]{2} + 9\sqrt[3]{2} = -9\sqrt[3]{2}$$

$$27. (5\sqrt[3]{16} + \sqrt[3]{250} - \sqrt[3]{54}) \cdot \sqrt[3]{4} = (10\sqrt[3]{2} + 5\sqrt[3]{2} - 3\sqrt[3]{2}) \cdot \sqrt[3]{4} = 12\sqrt[3]{2} \cdot \sqrt[3]{4} = 12 \cdot 2^{\frac{1}{3}} \cdot 2^{\frac{2}{3}} = 24$$

$$(\sqrt[3]{24} - \sqrt[3]{81} + 2\sqrt[3]{3})^3 = (2\sqrt[3]{3} - 3\sqrt[3]{3} + 2\sqrt[3]{3})^3 = (\sqrt[3]{3})^3 = 3$$

$$28. \sqrt{3a^4} + \sqrt{27} - 2\sqrt{12} = a^2\sqrt{3} + 3\sqrt{3} - 4\sqrt{3} = a^2\sqrt{3} - \sqrt{3} = (a^2 - 1)\sqrt{3}$$

$$\sqrt[3]{16} - \sqrt[3]{2a^3b^3} + \sqrt[3]{54} = 2\sqrt[3]{2} - ab\sqrt[3]{2} + 3\sqrt[3]{2} = (5 - ab)\sqrt[3]{2}$$

$$29. \sqrt{(a+b)^3} - \sqrt{4a+4b} - \sqrt{a^3+a^2b} = (a+b)\sqrt{a+b} - 2\sqrt{a+b} - a\sqrt{a+b} =$$

$$= (a+b-2-a)\sqrt{a+b} = (b-2)\sqrt{a+b}$$

$$30. 5\sqrt[3]{16} - \sqrt[3]{54} + \sqrt[3]{250} + \sqrt[4]{162} - \sqrt[4]{32} = 10\sqrt[3]{2} - 3\sqrt[3]{2} + 5\sqrt[3]{2} + 3\sqrt[4]{2} - 2\sqrt[4]{2} = 12\sqrt[3]{2} + \sqrt[4]{2}$$

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56. V

57. F

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63. V

$$64. \quad a^2 b \sqrt[3]{a^5 b^2} = \sqrt[3]{a^{11} b^5}$$

$$65. \quad \sqrt[4]{16 a^5 b^6} = 2 a b \sqrt[4]{ab^2}$$

$$66. \quad \sqrt[3]{a^2 x} \cdot \sqrt{a^2 x^3} = \sqrt[6]{a^{10} x^{11}}$$

$$67. \quad \sqrt{2a^2} \cdot \sqrt[5]{2^3 a^2} = \sqrt[10]{2^{11} a^{14}}$$

$$68. \quad (\sqrt[3]{a^4 b} + \sqrt[3]{ab^4}) \cdot \sqrt[3]{a^2 b^2} = ab(a + b)$$

$$69. \quad \sqrt[4]{\frac{(1-x)^2}{(a+b)^3}} : \sqrt[4]{\frac{a+b}{(1-x)^2}} = \frac{1-x}{a+b}$$

$$70. \quad a^2 b c^3 \sqrt[4]{a b^2 c} = \sqrt[4]{a^9 b^6 c^{13}}$$

$$71. \quad \sqrt[n]{a^{n+2} b^{2n+3} c^{3n}} = ab^2 c^3 \sqrt[n]{a^2 b^3}$$

$$72. \quad \sqrt{2} (\sqrt{8} + 1) = 4 + \sqrt{2}$$

$$2 \sqrt{a} (\sqrt{a} + \sqrt{3}) = 2a + \sqrt{12a}$$

$$73. \quad \sqrt[3]{8a^2 b} + \sqrt[6]{2^6 a^4 b^2} = 4 \sqrt[3]{a^2 b}$$

$$74. \quad \frac{\sqrt[4]{2^4 a^3} + 3 \sqrt[12]{a^9}}{\sqrt[4]{3^4 a}} = \frac{5}{3} \sqrt{a}$$