

CALCULA Y SIMPLIFICA:

$$1) \sqrt{8} + \sqrt{18} - \sqrt{98} = \sqrt{2 \cdot 2^2} + \sqrt{2 \cdot 3^2} - \sqrt{2 \cdot 7^2} = \sqrt{2} \cdot \sqrt{2^2} + \sqrt{2} \cdot \sqrt{3^2} - \sqrt{2} \cdot \sqrt{7^2} = \sqrt{2} \cdot 2 + \sqrt{2} \cdot 3 - \sqrt{2} \cdot 7 = 2 \cdot \sqrt{2} + 3 \cdot \sqrt{2} - 7 \cdot \sqrt{2} = -2\sqrt{2}$$

$$2) \sqrt{9} + \sqrt{8} - \sqrt{27} + \sqrt{75} - \sqrt{2} = \sqrt{3^2} + \sqrt{2^3} - \sqrt{3^3} + \sqrt{3 \cdot 5^2} - \sqrt{2} = \sqrt{3^2} + \sqrt{2 \cdot 2^2} - \sqrt{3 \cdot 3^2} + \sqrt{3 \cdot 5^2} - \sqrt{2} = 3 + 2 \cdot \sqrt{2} - 3 \cdot \sqrt{3} + 5 \cdot \sqrt{3} - \sqrt{2} = 3 + \sqrt{2} + 2\sqrt{3}$$

$$3) 3\sqrt{2} + 4\sqrt{8} - \sqrt{32} + \sqrt{50} = 3\sqrt{2} + 4\sqrt{2 \cdot 2^2} - \sqrt{2^5} + \sqrt{2 \cdot 5^2} = 3\sqrt{2} + 4\sqrt{2 \cdot 2^2} - \sqrt{2^2 \cdot 2^2 \cdot 2} + \sqrt{2 \cdot 5^2} = 3\sqrt{2} + 4 \cdot 2\sqrt{2} - 2 \cdot 2\sqrt{2} + 5\sqrt{2} = 12\sqrt{2}$$

$$4) \sqrt{8} - \sqrt{3} + \sqrt{18} + \sqrt{12} + \sqrt{27} = \sqrt{2 \cdot 2^2} - \sqrt{3} + \sqrt{2 \cdot 3^2} + \sqrt{3 \cdot 2^2} + \sqrt{3 \cdot 3^2} = 2\sqrt{2} - \sqrt{3} + 3\sqrt{2} + 2\sqrt{3} + 3\sqrt{3} = 5\sqrt{2} + 4\sqrt{3}$$

$$5) 2\sqrt{27} - 2\sqrt{12} + 9\sqrt{75} = 2\sqrt{3 \cdot 3^2} - 2\sqrt{3 \cdot 2^2} + 9\sqrt{3 \cdot 5^2} = 2 \cdot 3 \cdot \sqrt{3} - 2 \cdot 2 \cdot \sqrt{3} + 9 \cdot 5 \cdot \sqrt{3} = 6\sqrt{3} - 4\sqrt{3} + 45\sqrt{3} = 47\sqrt{3}$$

$$6) 3\sqrt{8} + 4\sqrt{50} - 6\sqrt{18} = 3\sqrt{2 \cdot 2^2} + 4\sqrt{2 \cdot 5^2} - 6\sqrt{2 \cdot 3^2} = 3 \cdot 2 \cdot \sqrt{2} + 4 \cdot 5 \cdot \sqrt{2} - 6 \cdot 3 \cdot \sqrt{2} = 6\sqrt{2} + 20\sqrt{2} - 18\sqrt{2} = 8\sqrt{2}$$

$$7) \sqrt{45} + \sqrt{180} - \sqrt{20} = \sqrt{3^2 \cdot 5} + \sqrt{2^2 \cdot 3^2 \cdot 5} - \sqrt{5 \cdot 2^2} = 3 \cdot \sqrt{5} + 2 \cdot 3 \cdot \sqrt{5} - 2 \cdot \sqrt{5} = 3\sqrt{5} + 6\sqrt{5} - 2\sqrt{5} = 7\sqrt{5}$$