

## TEMA 1. EJERCICIOS DE RADICALES

Opera y simplifica:

$$1. \sqrt{\frac{a^2}{mn^2} + \frac{a^2}{m^2n}}$$

$$2. \sqrt{4a^2cd + 8abcd + 4b^2cd}$$

$$3. \sqrt{6a^2b^4c^3} : \frac{2ab^3c^3}{9a^5b^8c^6}$$

$$4. \sqrt{\left(\frac{1}{x^2(a-x)} - \frac{1}{a^2(a-x)}\right)}(a+x)$$

$$5. 3\sqrt{ab} + \sqrt{4a^3b} - 2\sqrt{0,25ab} - a\sqrt{ab} - 4\sqrt{\frac{1}{4}ab}$$

$$6. \sqrt{98a^2b^4c^2} + \sqrt[3]{250a^6b^9c^3} - \sqrt[4]{32a^8b^{12}c^4} + \sqrt{128a^6b^2c^4}$$

$$7. \sqrt{\frac{a^3mn}{ab^2n^2}} + \sqrt{\frac{ab^7m^2}{a^3b^5mn}}$$

$$8. (a-b)\sqrt[3]{(a+b)^4} - (a^2+b^2)\sqrt{a-b} + (a^2+b^2)\sqrt[3]{a+b} + (a+b)^2\sqrt{a-b}$$

$$9. \frac{1}{a}\sqrt{\frac{ab^2}{4}} + 3b\sqrt{\frac{1}{4a}} - \frac{1}{a}\sqrt{ab^2}$$

$$10. \sqrt[3]{8a^3 + 8a^4} + 1,5\sqrt[3]{27 + 27a} - \sqrt[3]{0,125(1+a)}$$

$$11. \sqrt{a^2m - a^2n} + \sqrt[4]{(m-n)^2b^4} + \sqrt[6]{(m-n)^3c^6}$$

$$12. \frac{cd}{a}\sqrt{\frac{a^6}{cd}} - \frac{b^2d}{a}\sqrt{\frac{4a^4c}{b^2d}} + \frac{d^2}{c}\sqrt{\frac{b^4c^3}{d^3}}$$

$$13. \frac{\sqrt{a}}{\sqrt{b}} + \frac{\sqrt{b}}{\sqrt{a}} - \sqrt{ab} + \frac{1}{\sqrt{ab}}$$

$$14. \frac{\sqrt{\frac{ab}{c}} \cdot \sqrt[3]{\frac{a^2b}{c^2}} \cdot \sqrt[4]{\frac{a^3c}{b}}}{\sqrt[6]{\frac{ac^5}{b^4}} \cdot \sqrt[4]{\frac{bc}{a}} \cdot \sqrt{\frac{b}{c}}} : \sqrt[3]{\frac{a^2 \cdot b^2}{b \cdot c}}$$

$$15. \frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}} + \frac{\sqrt{5} - \sqrt{3}}{\sqrt{5} + \sqrt{3}}$$

$$16. \frac{1}{\sqrt[4]{a} + \sqrt[4]{b}}$$

$$17. \frac{1}{\sqrt{m} - \sqrt[4]{n}}$$

$$18. \left( \left( \frac{a - \sqrt{b}}{\sqrt{a} - \sqrt[4]{b}} - \sqrt{a} \right) : \sqrt{b} - \frac{a}{\sqrt{b}} \right) \cdot b$$

$$19. \frac{bc}{\sqrt{a} \cdot \sqrt[4]{b} \cdot \sqrt[8]{c}}$$

$$20. \left( 3\sqrt[4]{4a^2b^3} \cdot \sqrt{2ab} \right)^3$$

$$21. \left( (a+b)^5 \sqrt{a^4b^3} (a-b)^3 \sqrt{a^2b} \right)^2$$

$$22. \left( a^2 \sqrt{2} \cdot 2\sqrt[3]{bc^2} \right)^4$$

$$23. \left( \frac{\sqrt[5]{a^4b^3}}{c} \cdot \frac{a}{\sqrt[4]{b^2c^3}} \cdot \frac{5\sqrt{a}}{b} \right)^2$$

$$24. \left( \left( \frac{\sqrt{a}}{\sqrt[3]{b^2c}} \right)^2 : \left( \frac{2\sqrt{a}}{\sqrt[5]{b^4c^3}} \right)^3 \right)^2$$

$$25. \sqrt[3]{m^2n} \left( \sqrt[4]{m^3n^2} \left( \sqrt{m} \sqrt[3]{n} \right)^2 \sqrt[6]{m^5n^4} \right)^2$$