

Angeles City Science High School

Mathematics 9

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Section: 9 - Adenine

What's More

$$\begin{aligned} 1. & 11\sqrt{28} - 4\sqrt{7} \\ &= 11(2\sqrt{7}) - 4\sqrt{7} \\ &= 22\sqrt{7} - 4\sqrt{7} \\ &= \boxed{18\sqrt{7}} \end{aligned}$$

$$\begin{aligned} 2. & 16\sqrt[4]{32} + 13\sqrt[4]{32} \\ &= 29\sqrt[4]{32} \\ &= 29\sqrt[4]{2 \cdot 2 \cdot 2 \cdot 2} \\ &= 29(2\sqrt[4]{2}) \\ &= \boxed{58\sqrt[4]{2}} \end{aligned}$$

$$\begin{aligned} 3. & 2ab\sqrt[5]{c^3} + 8\sqrt[5]{a^5b^5c^3} \\ &= 2ab\sqrt[5]{c^3} + 8(ab\sqrt[5]{c^3}) \\ &= 2ab\sqrt[5]{c^3} + 8ab\sqrt[5]{c^3} \\ &= \boxed{10ab\sqrt[5]{c^3}} \end{aligned}$$

$$\begin{aligned} 4. & 6x^4\sqrt[3]{3} + 14x^4\sqrt[3]{3} - 11\sqrt[3]{3x^{12}} \\ &= 20x^4\sqrt[3]{3} - 11(x^4\sqrt[3]{3}) \\ &= 20x^4\sqrt[3]{3} - 11x^4\sqrt[3]{3} \\ &= \boxed{9x^4\sqrt[3]{3}} \end{aligned}$$

$$\begin{aligned} 5. & 2n\sqrt{5n^6} - 9n^4\sqrt{5} - 3n^2\sqrt{5n^4} \\ &= 2n(n^3\sqrt{5}) - 9n^4\sqrt{5} - 3n^2(n^2\sqrt{5}) \\ &= 2n^4\sqrt{5} - 9n^4\sqrt{5} - 3n^4\sqrt{5} \\ &= \boxed{-10n^4\sqrt{5}} \end{aligned}$$

$$\begin{aligned}
 6. & 8\sqrt{x^3y^3} + 16\sqrt{4x^3y^3} \\
 &= 8(xy\sqrt{xy}) + 16(2xy\sqrt{xy}) \\
 &= 8xy\sqrt{xy} + 32xy\sqrt{xy} \\
 &= \boxed{40xy\sqrt{xy}}
 \end{aligned}$$

$$\begin{aligned}
 7. & 3y\sqrt{4a} + y\sqrt{a} - 21\sqrt{y^2a} \\
 &= 3y(2\sqrt{a}) + y\sqrt{a} - 21(y\sqrt{a}) \\
 &= 6y\sqrt{a} + y\sqrt{a} - 21y\sqrt{a} \\
 &= \boxed{-14y\sqrt{a}}
 \end{aligned}$$

$$\begin{aligned}
 8. & 5\sqrt{xy} + 12\sqrt{x} \\
 & \rightarrow \text{Cannot be simplified}
 \end{aligned}$$

$$\begin{aligned}
 9. & 2\sqrt[3]{8} + 3\sqrt[3]{27} \\
 &= 2(2) + 3(3) \\
 &= 4 + 9 \\
 &= \boxed{13}
 \end{aligned}$$

$$\begin{aligned}
 10. & xyz\sqrt{w} + xyz\sqrt{25w} \\
 &= xyz\sqrt{w} + xyz\sqrt{5 \cdot 5w} \\
 &= xyz\sqrt{w} + 5xyz\sqrt{w} \\
 &= \boxed{6xyz\sqrt{w}}
 \end{aligned}$$

Assessment

$$1. 2\sqrt{64} + 6\sqrt{81} - 8\sqrt{25}$$

$$= 2\sqrt{8 \cdot 8} + 6\sqrt{9 \cdot 9} - 8\sqrt{5 \cdot 5}$$

$$= 2(8) + 6(9) - 8(5)$$

$$= 16 + 54 - 40$$

$$= \boxed{30}$$

$$2. 5\sqrt{200} + 2\sqrt{50} - 4\sqrt{8}$$

$$= 5\sqrt{2 \cdot 2 \cdot 2 \cdot 5 \cdot 5} + 2\sqrt{5 \cdot 5 \cdot 2} - 4\sqrt{2 \cdot 2 \cdot 2}$$

$$= 5(5 \cdot 2 \sqrt{2}) + 2(5 \sqrt{2}) - 4(2 \sqrt{2})$$

$$= 5(10 \sqrt{2}) + 2(5 \sqrt{2}) - 4(2 \sqrt{2})$$

$$= 50 \sqrt{2} + 10 \sqrt{2} - 8 \sqrt{2}$$

$$= \boxed{52 \sqrt{2}}$$

$$3. 4\sqrt[3]{x^3 y^5} + 9\sqrt[3]{x^3 y^5} - 4\sqrt[3]{x^3 y^5}$$

$$= 4(xy\sqrt[3]{y^2}) + 9(xy\sqrt[3]{y^2}) - 4(xy\sqrt[3]{y^2})$$

$$= 4xy\sqrt[3]{y^2} + 9xy\sqrt[3]{y^2} - 4xy\sqrt[3]{y^2}$$

$$= \boxed{9xy\sqrt[3]{y^2}}$$

$$4. 5\sqrt{5y} + 2\sqrt{2y} - 4\sqrt{5y}$$

$$= \boxed{1\sqrt{5y} + 2\sqrt{2y}}$$

$$5. 7\sqrt{8z^3} + 3z\sqrt{2z} - 10z\sqrt{z^3}$$

$$= 7(2z\sqrt{2z}) + 3z\sqrt{2z} - 10z(z\sqrt{z})$$

$$= 14z\sqrt{2z} + 3z\sqrt{2z} - 10z^2\sqrt{z}$$

$$= \boxed{17z\sqrt{2z} - 10z^2\sqrt{z}}$$