

A2.A.14: Operations with Radicals 4: Perform addition, subtraction, multiplication, and division of radical expressions

1 The expression $\sqrt[3]{27a^3} \cdot \sqrt[4]{16b^8}$ is equivalent to

- 1) $6ab^2$
- 2) $6ab^4$
- 3) $12ab^2$
- 4) $12ab^4$

2 Simplify: $\sqrt{a} \times \sqrt[3]{a}$

3 Simplify: $\sqrt{a^3} \times \sqrt[3]{a^2}$

4 Simplify: $\sqrt{a} \times \sqrt[3]{b}$

5 Simplify: $\sqrt{a} \times \sqrt[4]{b}$

6 Simplify: $\sqrt[3]{ab^2} \times \sqrt{ab^3}$

7 Simplify: $\frac{\sqrt[3]{\frac{a^2}{b}}}{\sqrt[3]{\frac{a}{b^2}}}$

8 Simplify: $\sqrt{\frac{1}{a}} + \sqrt[3]{\frac{1}{b}}$

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Answer Section

1 ANS: 1

$$\sqrt[3]{27a^3} \cdot \sqrt[4]{16b^8} = 3a \cdot 2b^2 = 6ab^2$$

REF: 061504a2

2 ANS:

$$\sqrt[6]{a^5}$$

REF: 039807al

3 ANS:

$$a^2 \sqrt[6]{a}$$

REF: 119411al

4 ANS:

$$\sqrt[6]{a^3 b^2}$$

REF: 019713al

5 ANS:

$$\sqrt[4]{a^2 b}$$

REF: 089603al

6 ANS:

$$b^2 \sqrt[6]{a^5 b}$$

REF: 039413al

7 ANS:

$$\sqrt[3]{ab}$$

REF: 019415al

8 ANS:

$$\frac{b\sqrt{a} + a\sqrt[3]{b^2}}{ab}$$

REF: 089710al