

Simplify the expression, in simplest radical form.

$$1.) \sqrt[3]{9x^2y^{10}} = 3x'y^5$$

$$2.) \sqrt[3]{125y^6} = 5y^2$$

$$3.) \sqrt[3]{25x^4y^7} = 5x^2y^3 \sqrt{y}$$

$$4.) \sqrt[3]{64a^{16}} = 4a^5 \sqrt[3]{a}$$

$$5.) \sqrt{-50} = \sqrt{-25 \cdot 2}$$
$$= 5i\sqrt{2}$$

$$6.) \sqrt[3]{-54} = \sqrt[3]{-27 \cdot 2}$$
$$= -3 \sqrt[3]{2}$$

$2^3 = 8$
 $3^3 = 27$
 $4^3 = 64$

$$7.) \sqrt{24x^3y^3} = \sqrt[3]{4 \cdot 6x^3y^3}$$

$$2xy \sqrt{6xy}$$

$$8.) \sqrt[3]{16x^{12}} = \sqrt[3]{8 \cdot 2x^{12}}$$
$$= 2x^4 \sqrt[3]{2}$$

9.) The expression $\sqrt[4]{81x^2y^5}$ is equivalent to

(a) $3x^{\frac{1}{2}}y^{\frac{5}{4}}$

(b) $3x^{\frac{1}{2}}y^{\frac{4}{5}}$

(c) $9xy^{\frac{5}{2}}$

(d) $9xy^{\frac{2}{5}}$

$$3x^{\frac{1}{2}}y^{\frac{5}{4}}$$

10.) The expression $\sqrt[3]{8x^5}$ is equivalent to

(a) $8x^{\frac{3}{5}}$

(b) $8x^{\frac{5}{3}}$

(c) $8x^{\frac{3}{5}}$

(d) $2x^{\frac{5}{3}}$

11.) The expression $\sqrt{3x^2y}$ is equivalent to

(a) $3xy^{\frac{1}{2}}$

(b) $3^{\frac{1}{2}}xy^{\frac{1}{2}}$

(c) $3xy$

(d) $3^{\frac{1}{2}}xy$

$$3^{\frac{1}{2}}x^{\frac{2}{2}}y^{\frac{1}{2}}$$