

Review

① $0^{-\frac{1}{6}}$
 $\frac{1}{0^{\frac{1}{6}}} = \text{undefined}$

② $0^{\frac{1}{4}}$
 $\sqrt[4]{0}$
 0

③ 0^{-1}
 $\frac{1}{0}$
undefined

④ $(-8)^{\frac{1}{8}}$
 $\sqrt[8]{-8}$
not possible

⑤ $(32n^{10})^{-\frac{2}{5}}$
 $\frac{1}{(32n^{10})^{\frac{2}{5}}}$
 $\frac{1}{4n^4}$

⑥ $(\frac{3}{2})^{-3}$
 $(\frac{2}{3})^3$
 $\frac{8}{27}$

SIMPLIFYING RADICALS

① $\sqrt{x^2}$
 x

② $\sqrt{x^5}$
 $\sqrt{x^4 \cdot x}$
 $x^2\sqrt{x}$

③ $\sqrt{x^9}$
 $\sqrt{x^8 \cdot x}$
 $x^4\sqrt{x}$

④ $\sqrt{40a^{19}}$
 $\sqrt{4 \cdot 10 \cdot a^{18} \cdot a}$
 $2a^9\sqrt{10a}$

⑤ $\sqrt{25x^6y^{13}}$
 $\sqrt{25x^6 \cdot y^{12} \cdot y}$
 $5x^3y^6\sqrt{y}$

⑥ $\sqrt{p^{15}q^9r}$
 $\sqrt{p^{14} \cdot p \cdot q^8 \cdot q \cdot r}$
 $p^7q^4\sqrt{pqr}$

$$\textcircled{7} \frac{\sqrt{63b^2}}{\sqrt{9 \cdot 7 \cdot b^2}}$$

$$\textcircled{3b\sqrt{7}}$$

$$\textcircled{8} \sqrt[3]{64m^9}$$

$$\textcircled{4m^3}$$

$$\textcircled{9} \frac{2\sqrt[3]{8x^{10}}}{\sqrt[3]{x^2} \sqrt[3]{x}}$$

$$\textcircled{4x^3 \sqrt[3]{x}}$$

$$\textcircled{10} \frac{3x \sqrt[4]{x^5}}{3x \sqrt[4]{x^4 \cdot x}}$$

$$\textcircled{3x^2 \sqrt[4]{x}}$$

$$\textcircled{11} 4\sqrt[3]{27m^{12}}$$

$$\textcircled{12m^4}$$

$$\textcircled{12} \frac{\sqrt{80a^2b^3c^3}}{\sqrt{16 \cdot 5 \cdot a^2 \cdot b^3 \cdot b \cdot c^3 \cdot c}}$$

$$\textcircled{4abc \sqrt{5bc}}$$

$$\textcircled{13} \sqrt[4]{64m^{19}} \rightarrow \sqrt[4]{64 \cdot m^{18} \cdot m}$$

$$\textcircled{2m^3 \sqrt[4]{m}}$$

~~$$\textcircled{14} \sqrt[4]{80a^2b^3c^3}$$~~

Homework

9.3 Which of these can be evaluated? Circle all that apply.

① $(-\frac{2}{3})^{-2}$

② $(-3)^{-\frac{1}{2}}$

③ 0^{-10}

④ $0^{\frac{1}{2}}$

SIMPLIFY THE FOLLOWING:

① $\sqrt[3]{(32y^5)^3}$

② $\sqrt[3]{(27y^3)^4} - \sqrt[6]{(27y^3)^4}$

③ $\frac{(x^{\frac{1}{4}})^8}{\sqrt[3]{x^6}}$

④ $(x^{\frac{1}{3}}y^{\frac{2}{3}}z^{\frac{1}{6}})^{18}$

⑤ $\sqrt{100x^2y^4}$

⑥ $3\sqrt{x^9y^6z^5}$

⑦ $2\sqrt[3]{-125x^{10}}$

⑧ $10\sqrt[3]{-24a^8b^2}$