

Name: _____

Date: _____

Section: _____

Simplify:

① $\sqrt{27}$

② $\sqrt{20}$

③ $\sqrt{68}$

④ $\sqrt{16a}$

⑤ $\sqrt{8x^3}$

⑥ $\sqrt{32x^5y^2}$

⑦ $\sqrt{5x^6}$

⑧ $\sqrt[3]{16}$

⑨ $\sqrt[3]{81x^4y^2}$

⑩ $\sqrt[4]{81}$

⑪ $\sqrt[5]{64x^8y^2z^{12}}$

⑫ $\sqrt{2}\sqrt{8}$

⑬ $\sqrt{6}\sqrt{4}$

⑭ $(2\sqrt{5})(3\sqrt{15})$

⑮ $(3+\sqrt{2})(3-\sqrt{2})$

⑯ $2\sqrt{6}(\sqrt{8}-3\sqrt{5})$

⑰ $(4-\sqrt{2})^2$

⑱ $\sqrt{2x^3y^4}\sqrt{8x^5y^3}$

⑲ $\sqrt{(2x^3)^2}$

⑳ $\sqrt[3]{27y^9}$

Rationalize :

$$\textcircled{1} \frac{1}{\sqrt{3x}}$$

$$\textcircled{7} \frac{5}{\sqrt[4]{x^3y^2z^8}}$$

$$\textcircled{2} \frac{5x}{\sqrt{6x^3}}$$

$$\textcircled{8} \frac{7}{\sqrt[3]{x^5y^8}}$$

$$\textcircled{3} \frac{4x^2y}{\sqrt{2x^3y^6}}$$

$$\textcircled{9} \frac{3}{\sqrt{3}}$$

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

$$\textcircled{10} \frac{4x}{\sqrt{16x^4}}$$

$$\textcircled{5} \frac{\sqrt[3]{64x^3}}{\sqrt{4y}}$$

$$\textcircled{11} \frac{1}{\sqrt{5}}$$

$$\textcircled{6} \sqrt{\frac{72x^6y^9}{2x^4y^{13}}}$$