

Classifying Numbers (Unit 10)

Name: _____

Date: _____

1. Simplify: $\sqrt{48}$

7. Simplify: $\sqrt{100a^{16}b^4}$

2. Simplify: $\sqrt{27}$

8. Simplify: $\sqrt{64a^4b^2c^8}$

3. Which one of the following radicals *cannot* be simplified? Explain why.

- A. $\sqrt{24}$ B. $\sqrt{25}$ C. $\sqrt{26}$ D. $\sqrt{27}$

9. Simplify: $\sqrt{0.16x^8y^2}$

4. Which one of the following radicals *cannot* be simplified? Explain why.

- A. $\sqrt{46}$ B. $\sqrt{72}$ C. $\sqrt{75}$ D. $\sqrt{104}$

10. Simplify: $\sqrt[3]{8x^6}$

5. Simplify: $\sqrt{64x^4y^6}$

11. Simplify: $\sqrt[3]{27a^{12}}$

6. Simplify: $\sqrt{25c^4d^{16}}$

12. Explain why $3.\overline{51} + 8.\overline{13}$ is rational.