

1. Use the product rule to multiply. Write your answer in simplest form.

a) $\sqrt{3} \cdot \sqrt{2}$

b) $\sqrt[3]{4x} \cdot \sqrt[3]{49x^2}$

c) $\sqrt{14m^5} \cdot \sqrt{7m^{13}}$

2. Use the quotient rule to simplify. Write your answers in simplest form.

a) $\sqrt{\frac{4}{49}}$

b) $\sqrt[3]{\frac{10}{r^8}}$

c) $\sqrt[4]{\frac{a^3}{81}}$

3. Use the quotient rule to divide. Simplify if possible.

a) $\frac{\sqrt[3]{24}}{\sqrt[3]{3}}$

b) $\frac{\sqrt{x^5y^3}}{\sqrt{xy}}$

c) $\frac{\sqrt[3]{128x^3}}{-3\sqrt[3]{2x}}$

4. Simplify.

a) $\sqrt[4]{4x^3} \cdot \sqrt[4]{5}$

b) $\sqrt{\frac{y^2z}{36}}$

c) $-\sqrt{32a^8b^7}$