

1. Simplify each of the following expressions.

(a) $\sqrt{48}$

(i) $\sqrt[3]{\frac{3}{24}}$

(b) $\sqrt{108}$

(j) $\sqrt{\frac{x^3}{x}}$

(c) $\sqrt{125}$

(k) $\sqrt{25x^4y^2}$

(d) $\sqrt[3]{125}$

(l) $\sqrt{125p^3q^2}$

(e) $\sqrt[3]{81}$

(m) $\sqrt[3]{54a^6b^4}$

(f) $2\sqrt{24}$

(n) $\sqrt[4]{10cd^7}$

(g) $4\sqrt{63}$

(h) $\sqrt{\frac{50}{2}}$

(o) $\sqrt[3]{\frac{16a^2b}{2a^2b^4}}$

2. Add or subtract the following radical expressions, if possible. You may need to simplify first to find like terms.

(a) $3\sqrt{5} - 6\sqrt{5}$

(b) $10\sqrt{10} - 8\sqrt{10} + \sqrt{2}$

(c) $\sqrt[4]{5c} + \sqrt[3]{5c}$

(d) $\frac{3}{4}a\sqrt[4]{b} + \frac{1}{6}a\sqrt[4]{b}$

(e) $9y^2\sqrt{2} + 4\sqrt{2}$

(f) $4\sqrt{7} + \sqrt{63} - 2\sqrt{28}$

(g) $4\sqrt[3]{x^4} - 2x\sqrt[3]{x}$

(h) $x\sqrt[3]{64x^5y^2} - x^2\sqrt[3]{x^2y^2} + 5\sqrt[3]{x^8y^2}$