

Simplifying Radicals

Date _____ Period _____

Simplify.

$$1) -\sqrt{7} - \sqrt{7}$$

$$-2\sqrt{7}$$

$$2) 3\sqrt{3} - \sqrt{3}$$

$$2\sqrt{3}$$

$$3) -3\sqrt{10} - 2\sqrt{10}$$

$$-5\sqrt{10}$$

$$4) 5\sqrt{8} + 2\sqrt{8}$$

$$14\sqrt{2}$$

$$5) -3\sqrt{5} + 5\sqrt{5}$$

$$2\sqrt{5}$$

$$6) 4\sqrt{10} + 4\sqrt{10}$$

$$8\sqrt{10}$$

$$7) 2\sqrt{5} + 2\sqrt{5}$$

$$4\sqrt{5}$$

$$8) 2\sqrt[5]{192} - \sqrt[5]{192} + 3\sqrt[5]{5}$$

$$2\sqrt[5]{6} + 3\sqrt[5]{5}$$

$$9) -2\sqrt{8} + 2\sqrt{20} + 2\sqrt{5}$$

$$-4\sqrt{2} + 6\sqrt{5}$$

$$10) 3\sqrt[3]{3} + 2\sqrt[3]{54} - 3\sqrt[3]{24}$$

$$-3\sqrt[3]{3} + 6\sqrt[3]{2}$$

$$11) \sqrt{6} \cdot \sqrt{8}$$

$$4\sqrt{3}$$

$$12) \sqrt{8} \cdot \sqrt{2}$$

$$4$$

$$13) \sqrt{2} \cdot \sqrt{3}$$

$$\sqrt{6}$$

$$14) 5\sqrt{5}(2 + \sqrt{2})$$
$$10\sqrt{5} + 5\sqrt{10}$$

$$15) \sqrt{2}(3\sqrt{10} + \sqrt{2})$$
$$6\sqrt{5} + 2$$

$$16) \sqrt{3}(\sqrt{6} + 4)$$
$$3\sqrt{2} + 4\sqrt{3}$$

$$17) (\sqrt{5n} + \sqrt{7})(\sqrt{5} + 5\sqrt{5})$$
$$30\sqrt{n} + 6\sqrt{35}$$

$$18) (1 + \sqrt{3})(-3 + \sqrt{3})$$
$$-2\sqrt{3}$$

$$19) \frac{4\sqrt{4}}{3\sqrt{100}}$$
$$\frac{4}{15}$$

$$20) \frac{\sqrt{5}}{\sqrt{16}}$$
$$\frac{\sqrt{5}}{4}$$

$$21) \frac{4\sqrt{10}}{3\sqrt{5}}$$
$$\frac{4\sqrt{2}}{3}$$

$$22) \frac{2\sqrt{4}}{\sqrt{25}}$$
$$\frac{4}{5}$$

$$23) \frac{\sqrt{8}}{3\sqrt{4}}$$
$$\frac{\sqrt{2}}{3}$$