

Quiz 7.3

1. (2 points) Simplify each radical using the Product Property.
Assume that all variables can be any real number.

$$\sqrt{125p^3q^4}$$

2. (2 points) Multiply and simplify.
Assume that all variables are greater than or equal to zero.

$$\sqrt[5]{-8a^3b^4} \cdot \sqrt[5]{12a^3b}$$

3. (2 point) Simplify

$$\sqrt[3]{3} \cdot \sqrt{2}$$

7.4 Adding, Subtracting, and Multiplying Radical expressions

Add the following

$$5\sqrt{2x} + 9\sqrt{2x} = 14\sqrt{2x}$$

$$5x + 9x = 14x$$

$$3\sqrt[3]{10} + 7\sqrt[3]{10} - 5\sqrt[3]{10}$$

$$5\sqrt[3]{10}$$

You Try

$$9\sqrt{13y} + 4\sqrt{13y}$$

$$4\sqrt{5} + 9\sqrt{5} - 3\sqrt{5}$$

Add or subtract as indicated. Assume all variables are real numbers greater than or equal to zero

$$3\sqrt{12} + 7\sqrt{3}$$

$$6\sqrt{3} + 7\sqrt{3}$$

$$13\sqrt{3}$$

Add or subtract as indicated. Assume all variables are real numbers greater than or equal to zero

$$3x\sqrt{20x} - 7\sqrt{5x^3}$$

$$6x\sqrt{5x} - 7x\sqrt{5x}$$

$$-x\sqrt{5x}$$

$$3\sqrt{5} + 7\sqrt{13}$$

You try

$$7\sqrt{10} - 6\sqrt{3}$$

$$4\sqrt{14} - 3\sqrt{8}$$

$$-5x\sqrt[3]{54x} + 7\sqrt[3]{2x^4}$$

Add or subtract as indicated. Assume all variables are real numbers greater than or equal to zero

$$\sqrt[3]{16x^4} - 7x\sqrt[3]{-2x} + \sqrt[3]{54x}$$

$$2x\sqrt[3]{2x} + 7x\sqrt[3]{2x} + 3\sqrt[3]{2x}$$

$$(9x + 3)(\sqrt[3]{2x})$$

Add or subtract as indicated. Assume all variables are real numbers greater than or equal to zero

$$3\sqrt[4]{m^4n} - 5m\sqrt[8]{n^2}$$

$$3m\sqrt[4]{n} - 5m\sqrt[8]{n^2}$$

$$3m(n)^{\frac{1}{4}} - 5m(n)^{\frac{1}{4}}$$

$$-2m\sqrt[4]{n}$$

You try

$$\sqrt[3]{8z^4} - 2z\sqrt[3]{-27z} + \sqrt[3]{125z}$$

$$\sqrt{25m} - 3\sqrt[4]{m^2}$$

Multiply and simplify

$$\sqrt{5}(3 - 4\sqrt{5}) \quad (3\sqrt{5} - 20) \frac{2}{3}$$

$$3\sqrt{5} - 4\sqrt{25}$$

$$\sqrt[3]{2}(3 + \sqrt[3]{4}) \quad 3\sqrt[3]{2} + \sqrt[3]{8}$$

$$(3\sqrt[3]{2} + 2)$$

$$(3 + 2\sqrt{7})(2 - 3\sqrt{7})$$

You try

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

$$\sqrt[3]{12}(3 - \sqrt[3]{2})$$

$$(2 - 7\sqrt{3})(5 + 4\sqrt{3})$$

Multiply and simplify

$$(2\sqrt{3} + \sqrt{5})^2 (2\sqrt{3} + \sqrt{5})$$

$$12 + 2\sqrt{15} + 2\sqrt{15} + 5$$

$$(17 + 4\sqrt{15})$$

$$(3 + \sqrt{7})(3 - \sqrt{7})$$

You Try

$$5\sqrt{2} \cdot 5\sqrt{2}$$

$$(5\sqrt{2} + \sqrt{3})^2$$

$$53 + 10\sqrt{6}$$

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