Adding, Subtracting, and Multiplying Radical Expressions

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

$$9\sqrt[3]{x} - 4\sqrt[3]{x}$$

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

$$3\sqrt{5} + 2\sqrt[4]{5} + 6\sqrt{5} - 8\sqrt[4]{5}$$

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

$$\sqrt[3]{16} - 6\sqrt[3]{2}$$

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

$$7\sqrt{45x^5} + 3x^2\sqrt{20x}$$

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

$$4\sqrt[3]{-7x^3} + 6x\sqrt[3]{189} + \sqrt[3]{56}$$

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

$$\sqrt{4x-4}-\sqrt{16x-16}$$

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

$$\sqrt[5]{32x^2}+\sqrt[10]{x^4}$$

8. Multiply and simplify. Assume all variables are greater than or equal to zero

$$\sqrt{3}\left(\sqrt{7}-4\sqrt{15}\right)$$

9. Multiply and simplify. Assume all variables are greater than or equal to zero

$$\sqrt{2x}\left(7+\sqrt{40x}\right)$$

10. Multiply and simplify. Assume all variables are greater than or equal to zero

$$\left(\sqrt{5}+2\sqrt{10}\right)\left(3\sqrt{6}-5\sqrt{2}\right)$$

11. Multiply and simplify. Assume all variables are greater than or equal to zero

$$\left(\sqrt{2x}-\sqrt{3}\right)^2$$

12. Multiply and simplify. Assume all variables are greater than or equal to zero

$$\left(\sqrt{3a}+\sqrt{11b}\right)\left(\sqrt{3a}-\sqrt{11b}\right)$$

13. Multiply and simplify. Assume all variables are greater than or equal to zero

$$\left(\sqrt[4]{27p}-2\right)\left(\sqrt[4]{27p}+5\right)$$