

1. Add or subtract whenever possible.

$$\text{a) } 2\sqrt{11} - 6\sqrt{11} = \boxed{-4\sqrt{11}}$$

↑
2-6

$$\text{b) } \sqrt{27} + \sqrt{12} = 3\sqrt{3} + 2\sqrt{3} = \boxed{5\sqrt{3}}$$

$$\sqrt{27} = \sqrt{9 \cdot 3} = 3\sqrt{3}$$

$$\sqrt{12} = \sqrt{4 \cdot 3} = 2\sqrt{3}$$

$$\text{c) } 3\sqrt[3]{16} + 5\sqrt[3]{2} = 6\sqrt[3]{2} + 5\sqrt[3]{2} = \boxed{11\sqrt[3]{2}}$$

$$3\sqrt[3]{16} = 3\sqrt[3]{8 \cdot 2} = 6\sqrt[3]{2}$$

$$\text{d) } x\sqrt{72} - \sqrt{18x^2} = 6x\sqrt{2} - 3x\sqrt{2} = \boxed{3x\sqrt{2}}$$

$$x\sqrt{72} = x\sqrt{36 \cdot 2} = 6x\sqrt{2}$$

$$\sqrt{18x^2} = \sqrt{9 \cdot 2 \cdot x^2} = 3x\sqrt{2}$$

$$\text{e) } \sqrt[3]{81x^4} + 5\sqrt[3]{24x^4} = 3x\sqrt[3]{3x} + 10x\sqrt[3]{3x} = \boxed{13x\sqrt[3]{3x}}$$

$$\sqrt[3]{81x^4} = \sqrt[3]{27 \cdot 3 \cdot x^3 \cdot x} = 3x\sqrt[3]{3x}$$

$$5\sqrt[3]{24x^4} = 5\sqrt[3]{8 \cdot 3 \cdot x^3 \cdot x} = 10x\sqrt[3]{3x}$$

Q: A man goes into a bar and asks for a glass of water. The barman pulls out a gun, and points it at the customer. "Thank you" replies the customer and walks out. What happened?