

Use the Distributive Property:

$$\sqrt[3]{y^2}(5\sqrt[3]{y} + \sqrt[3]{y^4} - 9\sqrt[3]{8y}) = (\sqrt[3]{y^2})(5\sqrt[3]{y}) + (\sqrt[3]{y^2})(\sqrt[3]{y^4}) - (\sqrt[3]{y^2})(9\sqrt[3]{8y})$$

$$= 5\sqrt[3]{y^3} + \sqrt[3]{y^6} - 9\sqrt[3]{8y^3} = 5\sqrt[3]{y^3} + \sqrt[3]{(y^2)^3} - 9\sqrt[3]{8}$$

$$= 5 \cdot y + y^2 - 9 \cdot 2 \cdot y = 5y + y^2 - 18y = y^2 - 13y$$