

$$1) \sqrt{9^4} \cdot 24 = \sqrt{16 \cdot 4} = \sqrt{81} = 16$$

$$\sqrt{\frac{8}{2}} + 3\sqrt{\frac{25}{63}}$$

$$2) \sqrt[3]{3^6} = 3^{\frac{6}{3}} = 3^2 = 9$$

$$3\sqrt[3]{x^8} = x^{\frac{8}{3}} = x$$

$$\sqrt{24} = 2 \cdot 2^{\frac{4}{2}} = 2^2 = 4$$

$$3) \sqrt[3]{8^3} = 8^{\frac{3}{3}} = 8$$

$$\sqrt[3]{2^3} = 2^{\frac{3}{3}} = 2$$

$$\sqrt{3^2} = 3^{\frac{2}{2}} = 3$$

$$\sqrt[6]{3^{24}} = 3^{\frac{24}{6}} = 3^4$$

$$\sqrt{5^2} = 5^{\frac{2}{2}} = 5$$

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

$$\sqrt{25} - \sqrt{36} + \sqrt{100} - \sqrt{49} + \sqrt{-1} = 5 - 6 + 10 + \sqrt{16} \times \sqrt{-1} - \sqrt{49(-1)}$$

$$\sqrt{49} \times \sqrt{-1} = 7 + 4\sqrt{-1} - 7\sqrt{-1} + \sqrt{-1}$$

$$5) \sqrt[3]{-27 + 24[\sqrt{36} : 2^2 \sqrt{32} \times (-2)] - (-6 + 3)^3}$$

$$-3 + 2 + [3 - 2 \times -2] - (-3)^3 - 1 + [7] - (-27)$$

$$-1 + 7 + 27 = 6 + 27 = 33$$