

1.1

$$1) \sqrt{12} = \sqrt{4 \cdot 3} = \sqrt{4} \sqrt{3} = 2 \sqrt{3}$$

$$2) \sqrt{27} = \sqrt{9 \cdot 3} = \sqrt{9} \sqrt{3} = 3 \sqrt{3}$$

$$3) \sqrt{40} = \sqrt{4 \cdot 10} = \sqrt{4} \sqrt{10} = 2 \sqrt{10}$$

$$4) \sqrt{72} = \sqrt{36 \cdot 2} = \sqrt{36} \sqrt{2} = 6 \sqrt{2}$$

$$5) \sqrt{75} = \sqrt{25 \cdot 3} = \sqrt{25} \sqrt{3} = 5 \sqrt{3}$$

$$6) \sqrt{1000} = \sqrt{100 \cdot 10} = \sqrt{100} \sqrt{10} = 10 \sqrt{10}$$

$$7) \sqrt{54} = \sqrt{9 \cdot 6} = \sqrt{9} \sqrt{6} = 3 \sqrt{6}$$

$$8) \sqrt{80} = \sqrt{4 \cdot 20} = \sqrt{4} \sqrt{20} = 2 \sqrt{20} \\ = 2 \sqrt{4 \cdot 5} = 2 \sqrt{4} \sqrt{5} = 2 \cdot 2 \sqrt{5} = 4 \sqrt{5}$$

$$9) \sqrt{\frac{1}{9}} = \frac{\sqrt{1}}{\sqrt{9}} = \frac{1}{3}$$

$$10) \sqrt{\frac{1}{2}} = \frac{\sqrt{1}}{\sqrt{2}} = \frac{1}{\sqrt{2}} = \frac{1 \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$11) \sqrt{\frac{9}{8}} = \frac{\sqrt{9}}{\sqrt{8}} = \frac{3}{\sqrt{4 \cdot 2}} = \frac{3}{\sqrt{4} \sqrt{2}} = \frac{3}{2 \sqrt{2}} = \frac{3 \cdot \sqrt{2}}{2 \sqrt{2} \cdot \sqrt{2}} = \frac{3 \sqrt{2}}{2 \cdot 2} = \frac{3 \sqrt{2}}{4}$$

$$12) \sqrt{\frac{7}{27}} = \frac{\sqrt{7}}{\sqrt{27}} = \frac{\sqrt{7}}{\sqrt{9 \cdot 3}} = \frac{\sqrt{7}}{\sqrt{9} \sqrt{3}} = \frac{\sqrt{7}}{3 \sqrt{3}} = \frac{\sqrt{7} \cdot \sqrt{3}}{3 \sqrt{3} \cdot \sqrt{3}} = \frac{\sqrt{7 \cdot 3}}{3 \cdot 3} = \frac{\sqrt{21}}{9}$$