Unit 6.5 Multiplying and Dividing Rational Expressions

1. Multiply the radical expressions
   a. $\sqrt{15} \cdot \sqrt{15} =$ _____

   b. $\sqrt{2} \cdot \sqrt{32} =$ _____

   c. $4\sqrt{20} \cdot \sqrt{48} =$ _____

   d. $3\sqrt{2} \cdot 2\sqrt{6} =$ _____

2. Multiply the radical expressions and simplify as much as possible

   a. $\sqrt{5x} \cdot \sqrt{15x} =$ _____

   b. $\sqrt{2x^3y^4} \cdot \sqrt{10xy^3} =$ _____

   c. $\sqrt{6ab^5} \cdot \sqrt{30a^3b^3} =$ _____

d. $\sqrt{18w^3v^5} \cdot \sqrt{3v^2w^2} =$ _____

3. Divide the radical expressions and simplify as much as possible

a. $\dfrac{\sqrt{72y^3}}{\sqrt{49y^6}} =$ _____

b. $\dfrac{\sqrt{45w^4}}{\sqrt{9w^2}} =$ _____

4. Perform the requested operation and simplify as much as possible

a. $\sqrt[6]{w} \cdot \sqrt[4]{w^3} =$ _____

b. $\dfrac{\sqrt[5]{a^6}}{\sqrt[2]{a}} =$ _____