Additional Problems: Rational & Irrational Numbers

**Rational Exponents**

1. Rewrite the expression as a product of identical factors to find the product for . Write your answer in simplified form.
2. Rewrite the expression as a product of identical factors to find the product for . Write your answer in simplified form.
3. What rational number could be used as an exponent to rewrite ?
4. What rational number could be used as an exponent to rewrite ?
5. How can you rewrite using a root?
6. How can you rewrite using a root?
7. Which factors of the base would help simplify the expression ?
   1. 49 = 7 ⋅ 7
   2. 49 = 7 ⋅ 7 ⋅ 7
   3. 49 = 14 ⋅ 7
   4. 49 = 14 ⋅ 14
8. Which factors of the base would help simplify the expression ?
   1. 64 = 8 ⋅ 8
   2. 64 = 4 ⋅ 4 ⋅ 4
   3. 64 = 16 ⋅ 4
   4. 64 = 16 ⋅ 16
9. Given that the meaning of a rational exponent can be connected to the meaning of a root, how can you rewrite using a rational exponent?
10. Given that the meaning of a rational exponent can be connected to the meaning of a root, how can you rewrite using a rational exponent?