

## HW #5

**Simplify.**

1)  $3x^{\frac{3}{2}} \cdot 3x^{\frac{2}{3}}$

2)  $n^{\frac{1}{3}} \cdot 3n$

3)  $x \cdot \left(x^{\frac{2}{3}} y^{\frac{1}{2}}\right)^2$

**Write each expression in radical form.**

4)  $x^{\frac{1}{2}}$

5)  $m^{\frac{7}{4}}$

6)  $(5n)^{\frac{5}{2}}$

7)  $(4k)^{\frac{1}{3}}$

**Write each expression in exponential form.**

8)  $(\sqrt[6]{n})^5$

9)  $\sqrt[4]{x}$

10)  $\sqrt[3]{7m}$

**Simplify. Write the answer in radical form. Explain your work.**

11)  $\sqrt[3]{x} \cdot \sqrt[4]{x}$