

**Math 2 –Multiplying and Dividing Radicals by using properties of powers**  
**Assignment # 33**

Name: \_\_\_\_\_ Per: \_

**Simplify the following exponential expression by using properties of exponents.**

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

2)  $x^{\frac{5}{2}} \cdot x^{\frac{6}{2}}$

3)  $x^{\frac{1}{5}} \cdot y^{\frac{1}{3}} \cdot x^{\frac{3}{5}} \cdot y^{\frac{2}{3}}$

4)  $2^{\frac{5}{3}} \cdot y^{\frac{1}{3}} \cdot x^{\frac{3}{5}} \cdot y^{\frac{2}{3}}$

5)  $3^{\frac{3}{3}} \cdot x^{\frac{1}{4}} \cdot x^{\frac{11}{4}}$

6)  $3^{\frac{1}{2}} \cdot 3^{\frac{6}{2}} \cdot 3^{\frac{3}{2}}$

**Simplify the following radicals by using properties of exponents.**

7)  $(\sqrt[3]{y})(\sqrt[3]{xy})$

8)  $(15c\sqrt[3]{cd})(\frac{1}{3}\sqrt[3]{cd^2})$

9)  $(\sqrt[3]{4ab})(\sqrt[3]{2a^2b})$

10)  $(\sqrt[3]{x^2y})(\sqrt[3]{xy^3})$

11)  $\sqrt[3]{m^2n^2} \cdot \sqrt[3]{m^4n^2}$

12)  $\sqrt[4]{3x} \cdot \sqrt[4]{27x^6}$

13)  $(\sqrt[3]{x^4})(\sqrt[4]{x^6})$

14)  $(\sqrt{y^3x^3})(\sqrt[4]{x^2y^2})$

15)  $\frac{\sqrt[5]{x^2}}{\sqrt[3]{x}}$