

Math 002 P1**Name:** Solutions**Quiz # 5**

October 14, 2014 No electronic devices or interpersonal communication allowed. Show work to get credit.

(1) Simplify the following radical expressions.

(a) $\sqrt[3]{16x^5}$

$$= \sqrt[3]{8x^3 \cdot 2x^2}$$

$$= \sqrt[3]{8x^3} \cdot \sqrt[3]{2x^2}$$

$$= 2x \sqrt[3]{2x^2}$$

$$(b) \sqrt[4]{\frac{2k^7}{8n^{23}}} = \sqrt[4]{\frac{k^7}{4n^{23}}} = \frac{\sqrt[4]{k^7}}{\sqrt[4]{4n^{23}}} = \frac{k \sqrt[4]{k^3}}{n^5 \sqrt[4]{4n^3}}$$

$$(c) 5\sqrt{24} - \sqrt{54} = 5(2\sqrt{6}) - (3\sqrt{6}) \\ = 10\sqrt{6} - 3\sqrt{6} \\ = 7\sqrt{6}$$

(2) Solve the equation $2x + 7 = 5x - 2$.

$$\frac{-2x+2}{-2x+2}$$

$$9 = 3x$$

$$\frac{\div 3}{\div 3} \\ \boxed{3 = x}$$