KEY

Math 10C

LO6 – 4.4 Mixed to Entire Radicals

Part 1 – Squaring and Cubing Expressions

Q1: Simplify the following expressions:

$(5x^4)^3$

$5^3(x^4)^3$

$125x^{12}$

$(2x^7y^3)^2$

$2^2(x^7)^2(y^3)^2$

$4x^{14}y^6$

Part 2 – Entire to Mixed Radicals

Q2: Convert the following Mixed Radicals to Entire Radicals:

$5x^4\sqrt[3]{3x^2}$

$\sqrt[3]{(5x^4)^3}\cdot\sqrt[3]{3x^2}$

$\sqrt[3]{125x^{12}}\cdot\sqrt[3]{3x^2}$

$\sqrt[3]{375x^{14}}$

$2x^7y^3\sqrt{5x}$

$\sqrt{(2x^7y^3)^2}\cdot\sqrt{5x}$

$\sqrt{4x^{14}y^6}\cdot\sqrt{5x}$

$\sqrt{20x^{15}y^6}$

$3x\sqrt{5x}$

$\sqrt{(3x)^2}\cdot\sqrt{5x}$

$\sqrt{9x^2}\cdot\sqrt{5x}$

$\sqrt{45x^3}$

$3x^2y\sqrt[3]{5xy^2}$

$\sqrt[3]{(3x^2y)^3}\cdot\sqrt[3]{5xy^2}$

$\sqrt[3]{27x^6y^3}\cdot\sqrt[3]{5xy^2}$

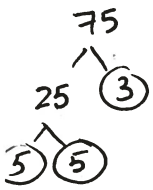
$\sqrt[3]{135x^7y^5}$

KEY

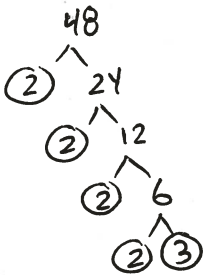
Math 10C

Part 3 – Back and Forth

Q3: Using $\sqrt{75x^4y^3z^2}$ ...

Convert it to a Mixed Radical	*Now convert it back to an Entire Radical*
	$5x^2yz\sqrt{3y}$
$\sqrt{3\cdot 5^2\cdot x^2\cdot x^2\cdot y^2\cdot y\cdot z^2}$	$\sqrt{(5x^2yz)^2}\cdot\sqrt{3y}$
$5\times x\times yz\sqrt{3y}$	$\sqrt{25x^4y^2z^2}\cdot\sqrt{3y}$
$5x^2yz\sqrt{3y}$	$\sqrt{75x^4y^3z^2}$

Q4: Using $\sqrt[3]{48x^7y^4z^2}$ ...

Convert it to a Mixed Radical	*Now convert it back to an Entire Radical*
	$2x^2y\sqrt[3]{6xyz^2}$
$\sqrt[3]{2^4\cdot 3\cdot x^7\cdot y^4\cdot z^2}$	$\sqrt[3]{(2x^2y)^3}\cdot\sqrt[3]{6xyz^2}$
$\sqrt[3]{2^3\cdot 2\cdot 3\cdot x^3\cdot x^3\cdot x\cdot y^3\cdot y\cdot z^2}$	$\sqrt[3]{8x^6y^3}\cdot\sqrt[3]{6xyz^2}$
$2\times xy\sqrt[3]{2\cdot 3\cdot x\cdot y\cdot z^2}$	$\sqrt[3]{48x^7y^4z^2}$
$2x^2y\sqrt[3]{6xyz^2}$	