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Alg II

Quiz Review

1-6A Assignment

Simplifying Radicals

$$1) \sqrt[4]{128} = \sqrt[4]{16} \sqrt[4]{8} = 2\sqrt[4]{8}$$

$$2) \sqrt[3]{135} = \sqrt[3]{27} \sqrt[3]{5} = 3\sqrt[3]{5}$$

$$3) \sqrt[3]{162} = \sqrt[3]{27} \sqrt[3]{6} = 3\sqrt[3]{6}$$

$$4) \sqrt[4]{x^6 y^{10} z^{12}} = \sqrt[4]{x^4 y^8 z^{12}} \sqrt[4]{x^2 y^2} = x y^2 z^3 \sqrt[4]{x^2 y^2}$$

$$5) \sqrt[3]{x^5 y^8} = \sqrt[3]{x^3 y^6} \sqrt[3]{x y^2} = x y^2 \sqrt[3]{x y^2}$$

$$6) \sqrt[5]{x^9 y^2 z^{11}} = \sqrt[5]{x^5 z^{10}} \sqrt[5]{x^4 y^2 z} = x z^2 \sqrt[5]{x^4 y^2 z}$$

$$7) \sqrt[3]{64 x^5 y^5 z^2} = \sqrt[3]{64 x^3 y^3} \sqrt[3]{x^2 y^2 z^2} = 4 x y \sqrt[3]{x^2 y^2 z^2}$$

$$8) \sqrt[3]{1000 x^6 y^3 z^5} = \sqrt[3]{1000 x^6 y^3 z^3} \sqrt[3]{z^2} = 10 x^2 y z \sqrt[3]{z^2}$$

$$9) \sqrt[3]{256 x^7 y^3 z^6} = \sqrt[3]{64 x^6 y^3 z^6} \sqrt[3]{4 x} = 4 x^2 y z^2 \sqrt[3]{4 x}$$

$$10) \sqrt[4]{162 x^4 y^8 z^6} = \sqrt[4]{81 x^4 y^8 z^4} \sqrt[4]{2 z^2} = 3 x y^2 z \sqrt[4]{2 z^2}$$

$$11) \sqrt[6]{128 x^2 y^4 z} = \sqrt[6]{64} \sqrt[6]{x^2 y^4 z} = 2 \sqrt[6]{x^2 y^4 z}$$

$$12) \sqrt[4]{96 x^2 y^4 z^8} = \sqrt[4]{16 y^4 z^8} \sqrt[4]{6 x^2} = 2 y z^2 \sqrt[4]{6 x^2}$$

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Simplify

$$13) \sqrt[5]{160xy^2z^2} = \sqrt[5]{32} \sqrt[5]{5xy^2z^2} = 2 \sqrt[5]{5xy^2z^2}$$

$$14) \sqrt[3]{24x^3yz} = \sqrt[3]{8x^3} \sqrt[3]{3x^2yz} = 2x \sqrt[3]{3x^2yz}$$

$$15) \sqrt[3]{375x^5y^3z^{10}} = \sqrt[3]{125x^3y^3z^9} \sqrt[3]{3x^2z} = 5xyz^3 \sqrt[3]{3x^2z}$$