

Key!

Honors Geometry - Warm-Ups

Tuesday, 11/29

Simplifying Radicals: Simplify each of the following radical expressions.

$$1. \sqrt{52} = \sqrt{4 \cdot 13} = 2\sqrt{13}$$

$$2. 4\sqrt{54} = 12\sqrt{6}$$

$$\downarrow$$

$$\sqrt{9} \cdot \sqrt{6}$$

$$3$$

$$3. \sqrt{70} = \sqrt{70}$$

$$4. -2\sqrt{144} = -2 \cdot 12 = -24$$

$$5. \sqrt{72x^6y^9z} = 6x^3y^4\sqrt{2yz}$$

$$\downarrow$$

$$\sqrt{36} \cdot \sqrt{2}$$

$$6$$

$$6. 3\sqrt{50x^4} = 15x^2\sqrt{2}$$

$$\downarrow$$

$$\sqrt{25} \cdot \sqrt{2}$$

$$5$$

$$7. -3\sqrt{28x^5y^3} = -6x^2y\sqrt{7xy}$$

$$\downarrow$$

$$\sqrt{4} \cdot \sqrt{7}$$

$$2$$

$$8. -7\sqrt{24x^2y^8} = -14xy^4\sqrt{6}$$

$$\downarrow$$

$$\sqrt{4} \cdot \sqrt{6}$$

$$2$$

Wednesday, 11/30

Multiplying Radicals: Simplify each of the following radical expressions using multiplication.

$$1. \sqrt{3} \cdot \sqrt{7} = \sqrt{21}$$

$$2. \sqrt{6} \cdot \sqrt{6} = \sqrt{36} = 6$$

$$3. (6\sqrt{11})^2 = 6^2 \cdot (\sqrt{11})^2 = 36 \cdot 11 = 396$$

$$4. \sqrt{6} \cdot \sqrt{9} = \sqrt{54} = \sqrt{9 \cdot 6} = 3\sqrt{6}$$

$$5. \sqrt{2a^2} \cdot \sqrt{10a^3} = 2a^2\sqrt{5a}$$

$$\downarrow$$

$$\sqrt{4} \cdot \sqrt{5}$$

$$2$$

$$6. (2\sqrt{12})^2 = 2^2 \cdot 12 = 48$$

$$7. 5\sqrt{11xy^3} (2\sqrt{3x^2y}) = 10xy^2\sqrt{33x}$$

$$10\sqrt{33x^3y^4}$$

$$8. 2\sqrt{12} \cdot 3\sqrt{60} = 12\sqrt{5}$$

$$6\sqrt{120}$$

$$\downarrow$$

$$\sqrt{4 \cdot 4} \cdot \sqrt{5}$$

$$12$$

Thursday, 12/1

Dividing Radicals: Simplify each of the following radical expressions using division.

$$1. \sqrt{\frac{72}{5}} = \frac{\sqrt{72}}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{360}}{5} = \frac{6\sqrt{10}}{5}$$

$$2. \sqrt{\frac{60}{15}} = \frac{\sqrt{60}}{\sqrt{15}} = \sqrt{4} = 2$$

$$3. \frac{\sqrt{5}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{10}}{2}$$

$$4. \frac{8}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{8\sqrt{3}}{3}$$

$$5. \frac{2\sqrt{2}}{3\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{6}}{9}$$

$$6. \frac{8}{\sqrt{144}} = \frac{8}{12} = \frac{2}{3}$$

$$7. \sqrt{\frac{20}{80}} = \frac{\sqrt{20}}{\sqrt{80}} = \frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2}$$

$$8. \frac{\sqrt{2}}{7\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{10}}{35}$$