Secondary Math 3   Name_____

6.3 Multiplying and Dividing Radicals   Date_____ Period____

Rewrite each radical in simplified form. Include absolute value signs when necessary.

1) $\sqrt{125u^3v^4}$

2) $\sqrt{196x^2y^2}$

3) $\sqrt{50x^2y^4}$

4) $\sqrt[4]{48m^6n^6}$

5) The formula $F = \dfrac{mv^2}{r}$ gives the centripetal force F of an object of mass m moving along a circle

of radius r, where v is the tangential velocity of the object. Solve the formula for v. Rationalize
the denominator.

6) The base of a triangle is $\sqrt{18}$cm and its height is $\sqrt{8}$cm. Find its area.

Multiply or divide if possible. Then rewrite each radical so it is in reduced form.

7) $\sqrt[3]{9} \cdot \sqrt[3]{3}$

8) $\sqrt[3]{-7} \cdot \sqrt[3]{49}$

9) $\sqrt{2} \cdot \sqrt[3]{49}$

10) $\sqrt{32x^2y} \cdot \sqrt{18xy^3}$

11) $\sqrt{8x^2} \cdot \sqrt{2x^2}$

12) $\sqrt[3]{15x^2} \cdot \sqrt[3]{25x^2}$

13) $5\sqrt{9y^2} \cdot \sqrt[3]{24y}$

14) $\sqrt{\dfrac{128}{8}}$

15) $\dfrac{\sqrt[3]{81x^5y^3}}{\sqrt[3]{3x^2}}$

16) $\dfrac{\sqrt[4]{162x^4}}{\sqrt[4]{2y^8}}$

Divide. Rationalize all Denominators.

17) $\dfrac{\sqrt{8}}{\sqrt{6}}$

18) $\dfrac{\sqrt{3x^5}}{8x^2}$

19) $\dfrac{\sqrt[3]{6x^2y^4}}{2\sqrt[3]{5x \cdot y}}$

20) $\dfrac{1}{\sqrt[3]{9y^4}}$

21) $\dfrac{\sqrt[3]{14x}}{\sqrt[3]{7x^2y}}$

22) $\dfrac{3\sqrt{11x^3y}}{-2\sqrt{12x^4y}}$