Algebra 2 w/ Trig

5.4 Multiplying and Dividing Rational Expressions

Warm-Up:

**Factor the expression.**

HINT FOR #3:

$$a^{3}-b^{3}=\left(a-b\right)\left(a^{2}+ab+b^{2}\right)$$

$$a^{3}+b^{3}=(a+b)(a^{2}-ab+b^{2})$$

1. 10*x* – 5*x*2 2. *x*2 – 2*x* – 483. *x*3 – 125

-------------------------------------------------------------------NOTES------------------------------------------------------------------------------------

Example 1: Simplify a Rational Expression



YOU TRY:

**Simplify the expression, if possible.**

  

  

Example 2: Multiple Choice!



Example 3: Multiplying Rational Expressions Example 4: Multiply a Rational Expression by a Polynomial

 

YOU TRY: **Multiply the expressions. Simplify the result.**

  

Example 5: Dividing Rational Expressions Example 6: Divide a Rational Expression by a Polynomial

 

YOU TRY: **Divide the expressions. Simplify the result.**

 

KEEP GOING:

**Perform the operation.**



 

1. **A cube has edge length** *x***. A rectangular prism has a square base with side length** *x* **and height** *x*+2**. Write an expression in simplest form for the ratio of the surface area of the prism to the surface area of the cube.**

Hw: Section 5.4 p. 331 #5-41 every other odd