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wiki assignment in email

Date: 3/5<http://www.mathvizza.com>Bell WorkDirections: Please simplify the following.

1.  $2^{-3}$   $\frac{1}{2^3} = \frac{1}{8}$

2.  $-3^2$   
 $-9$

3.  $\left(\frac{1}{5}\right)^{-2}$   $5^2 = 25$

4.  $\left(\frac{2x^7y}{3x}\right)^{-2}$   
 $\left(\frac{34}{2x^7y}\right)^2 \left(\frac{3}{2x^6y}\right)^2$   
 $\frac{9}{4x^{12}y^2}$

5.  $\frac{2}{3\sqrt{5}}$   $\frac{\sqrt{5}}{\sqrt{5}}$   
 $\frac{2\sqrt{5}}{3 \cdot 5}$   
 $\frac{2\sqrt{5}}{15}$



## Objectives

1. The students will simplify expressions with complex denominators.
2. The students will take a quiz on graphing quadratics.

Simplifying

$$\begin{aligned} \frac{5}{i} \cdot \frac{i}{i} &= \frac{5i}{i^2} \\ &= \frac{5i}{-1} \\ &= -5i \end{aligned}$$

$$\begin{aligned} \frac{7}{-3i} \cdot \frac{i}{i} &= \frac{7i}{-3i^2} \\ &= \frac{7i}{3} \end{aligned}$$

$$\begin{aligned} \frac{-1}{5i} \cdot \frac{i}{i} &= \frac{-i}{5i^2} \\ &= \frac{-i}{-5} \\ &= \frac{i}{5} \end{aligned}$$

Using the Conjugate

The conjugate of  $a+bi$  is  $a-bi$

The conjugate of  $a-bi$  is  $a+bi$

} Change the operation,

Let's Use the Conjugate

$$1. \frac{7}{2+i} \cdot \frac{(2-i)}{(2-i)}$$

$$\frac{14-7i}{4-\cancel{2i+2i}-i^2} \quad \frac{14-7i}{4-(-1)}$$

$$\frac{14-7i}{5}$$

$$3. \frac{i+2}{i-3}$$

$$\frac{14}{5} - \frac{7i}{5}$$

$$2. \frac{4i}{5-i} \cdot \frac{(5+i)}{(5+i)}$$

$$\frac{20i+4i^2}{25-5i+5i-i^2} \quad \frac{20i-4}{25-(-1)}$$

$$\frac{20i-4}{26}$$

$$4. \frac{-7i}{9+2i}$$

$$\frac{10i-2}{13i-13}$$