

Home: 674

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wiki assignment in email ← Monday  
Bell WorkDate: 2/5<http://www.mathvizza.com>Directions: Please simplify the following.

1.  $2^{-3}$

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

2.  $-3^2$

$$-9$$

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

$$\frac{5^2}{1}$$

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

$$\left(\frac{2x^6y}{3}\right)^{-2}$$

$$\left(\frac{3}{2x^6y}\right)^2 = \frac{9}{4x^{12}y^2}$$

5.

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

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

$$\frac{2\sqrt{5}}{15}$$

## Objectives

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

Simplifying

$$\frac{5}{i} \cdot \frac{i}{i} = \frac{5i}{i^2}$$

$$= \frac{5i}{-1}$$

$$-5i$$

$$\frac{7}{-3i} \cdot \frac{i}{i}$$

$$\frac{7i}{-3i^2} = \frac{7i}{-3(-1)}$$

$$= \left( \frac{7i}{3} \right)$$

$$\frac{-1}{5i} \cdot \frac{i}{i}$$

$$\frac{-i}{5i^2}$$

$$\frac{-i}{5(-1)} = \left( \frac{i}{5} \right)$$

Using the ConjugateThe conjugate of  $a+bi$  is
$$\left. \begin{array}{l} a-bi \\ a+bi \end{array} \right\} \text{change the operation}$$
The conjugate of  $a-bi$  is

Let's Use the Conjugate

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

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

$$3. \frac{i+2}{i-3} \quad \frac{14-7i}{5}$$

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

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

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

$$4. \frac{-7i}{9+2i} = \frac{20i-4}{26} = \frac{10i}{13} - \frac{2}{13}$$