

SECTION 3.6

Exponents, Complex Fractions and the Order of Operations Agreement

I. OBJECTIVES

At the conclusion of this lesson you should be able to:

1. Apply exponents to fractions.
2. Simplify complex fractions.

II. PROCEDURE

Put DVD 7 in and go to Section 3.6. While watching the DVD, follow this study guide and take notes in the study guide as if you were sitting in a classroom. Stop or pause the DVD as needed to catch up or copy something down.

Exponents

$$\left(\frac{2}{3}\right)^2 \quad \text{What is the base? } \underline{\hspace{2cm}} \quad \text{What is the exponent? } \underline{\hspace{2cm}}$$

$$\left(\frac{2}{3}\right)^2$$

$$\left(-\frac{3}{4}\right)^2$$

$$(negative)^{even} = \underline{\hspace{2cm}} \quad (negative)^{odd} = \underline{\hspace{2cm}}$$

$$\left(-\frac{1}{6}\right)^3$$

$$\left(\frac{5}{8}\right)^3$$

$$\left(2\frac{3}{4}\right)^2$$

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

$$\left(\frac{2}{3}\right)^3 \cdot \left(\frac{5}{6}\right)^2$$

$$3 \cdot \left(\frac{2}{5}\right)^2 \cdot \left(-\frac{1}{6}\right)^2$$

$$\frac{\frac{7}{24}}{\frac{3}{8}}$$

This is called a _____ fraction.

Why is this called a complex fraction? _____

$$\frac{\frac{7}{24}}{\frac{3}{8}}$$

$$\frac{\frac{7}{12}}{\frac{5}{18}}$$

$$\frac{-\frac{5}{7}}{\frac{4}{7} - \frac{3}{14}}$$

$$\begin{array}{r} 4 - 3\frac{5}{8} \\ \hline 2\frac{1}{2} - \frac{3}{4} \end{array}$$

$$\begin{array}{r} -8 \\ \hline \frac{2}{3} - \frac{1}{4} \end{array}$$

Order of Operations

REVIEW

P _____

E _____

M _____

D _____

A _____

S _____

What do you do first? _____

What do you do next? _____

What do you do with multiplication and division? _____

What do you do with addition and subtraction? _____

$$\frac{3}{5} \div \frac{6}{7} + \frac{4}{5}$$

Turn in your textbook to page 223.

Problem #58.

$$\left(\frac{1}{3}\right)^2 \cdot \frac{14-5}{6-10} + \frac{3}{4}$$

Turn in your textbook to page 223.

Problem #60.

$$\frac{4}{5} + \frac{3 - \frac{7}{9}}{\frac{5}{6}} \cdot \frac{3}{8}$$

Turn in your textbook to page 223.

Problem #52.

$$\frac{7}{18} + \frac{5}{6} \cdot \left(\frac{2}{3} - \frac{1}{6} \right)$$

$$x - y^3 z \quad x = \frac{5}{6}, y = \frac{1}{2}, z = 8$$

$$\frac{x - y}{z}$$

$$x = \frac{1}{2}, \quad y = \frac{1}{6}, \quad z = \frac{2}{3}$$

Turn in your textbook to page 223.

Problem #56.

III. HOMEWORK

SECTION 3.6

p. 221

1-61 odd