

Lesson Plan

Grade 9 Academic Math

Day: 2

Unit: Grade 8 Review

Topic: Percent and Exponents

▣ *homework check:* NPM 9 p 497 – 500

▣ *note:* Grade 8 Review (cont'd)

Percent – means “out of one hundred”

1) changing percent to a fraction

$$\begin{aligned} 23\% &= \\ &= \frac{23}{100} \end{aligned}$$

$$52\% =$$

$$\begin{aligned} &= \frac{52}{100} \\ &= \frac{13}{25} \end{aligned}$$

2) fraction to decimal – divide top by bottom

$$\begin{aligned} \frac{9}{10} &= \\ &= 0.9 \end{aligned}$$

$$\begin{aligned} \frac{7}{8} &= \\ &= 0.875 \end{aligned}$$

3) decimals to percent – multiply by 100

$$\begin{aligned} 0.27 &= \\ &= 27\% \end{aligned}$$

$$\begin{aligned} 0.333\overline{3} &= \\ &= 33.\overline{3}\% \end{aligned}$$

4) decimal to fraction – write over place value

$$\begin{aligned} 0.625 &= \\ &= \frac{625}{1000} \\ &= \frac{5}{8} \end{aligned}$$

$$\begin{aligned} 1.25 &= \\ &= \frac{125}{100} \\ &= \frac{5}{4} \end{aligned}$$

Exponents

Recall that $2^3 = 2 \times 2 \times 2$ and is read as “two to the exponent two”. Also recall



and that an exponent affects only what it is directly next to. This is particularly important when using the meaning to evaluate. examples)

$$\begin{array}{ll}
 (-3)^2 = & -3^2 = \\
 \text{a) } & = (-3)(-3) & \text{b) } & = -3(3) \quad \text{*Note the difference.} \\
 & = 9 & & = -9
 \end{array}$$

Scientific Notation

Scientific notation is used to help represent large numbers in an ordered fashion that is accepted in all countries. To use scientific notation, we rely on the exponents and powers of base 10. For example,

$$\begin{array}{ll}
 589000 = & 0.00000345 = \\
 5.89 \times 10^5 & = 3.45 \times 10^{-6}
 \end{array}$$

▣ homework assignment: NPM 9 p. 35, p. 492, p. 501,