

DELTA MATH SCIENCE PARTNERSHIP INITIATIVE

M³ Summer Institutes

(Math, Middle School, MS Common Core)

Percents

Common Core State Standards:

6.RP.3C

Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

7.RP.3

Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

Hook Problem: 6% of what number is six less than 6% of 600?

Final Answer:

Teacher Model: “Grid and Percent It” Illuminations lesson

Work independently with laminated grid sheets and erasable markers.

Guiding Question: How can the 10x10 grids help solve the Hook Question?

1. Share responses.
2. Discuss and model solutions to the Hook Question.
3. Journal the thought process and solution to Hook Question.
 - a. 16 is 32% of what number?

 - b. 170 of the 1020 seats in an auditorium were empty. What percent of the seats were occupied?

Activity: “Now and Then” Illuminations lesson.

4. Journal responses to the following questions:
 - a. What does it mean to have a percent less than 1 or greater than 100?

 - b. When does it not make sense to have a percent less than 1 or greater than 100?

 - c. List three things you think are most important when solving percent problems.

Teacher Model: Use the box diagram to demonstrate solving percent word problems with the equation $P \cdot A = B$.

Question: Joe's Jewels is running a sale on strands of pearls. An 18-inch strand of pearls is 75% off.

- a. If the sales price is \$125, what is the original price?

- b. If the original price is \$600, what is the sale price?

- c. If the sale price is \$125 and the original price is \$600, what is the percent of discount?

Guiding Question: How does the box diagram help construct the equation to solve this problem?

Additional Questions:

5. Chill Town raised the price of an ice cream cone from \$0.75 to \$1.00. What is the percent increase?

6. Harry has 22% of his paycheck taken for taxes. If the amount taken for taxes is \$136.40, what is the amount of Harry's check before taxes are taken out?

Closing Activity:

Teacher Model: Look at the website http://www.bls.gov/data/inflation_calculator.htm

7. Compare the value of \$1 in 1959 and \$1 in 2012.
8. Compare value of a \$30,000 house in 1959 to what the value would be in 2012.

Guiding Question: Do these items keep up with, fall below, or rise above inflation prices?

