Week 2

Solving Percent Problems

MA123: Mathematical Reasoning & Modeling
(Spring 2021)

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Example 1:

Compute 40% of 1900.

$\frac{40}{100} \times 1900 = 760$

Base Percent Equation

$$\text{Amount(A)} = \text{Percent(P)} \times \text{Base(B)}$$

$$A = P \times B$$

Example 2:

2% of what is $6.42.
Write the percent (as a decimal), the base and the amount (round to the hundreths place).

$A = 6.42$, $P = 0.02$, $B = ?$

$6.42 = 0.02 \times B$

$B = \frac{6.42}{0.02} = \$321.00$

Base Percent Equation

$$\text{Amount(A)} = \text{Percent(P)} \times \text{Base(B)}$$

$$A = P \times B$$

Example 3:

What is 110% of 161?
Identify the percent, the base, and the amount. Write the percent as a decimal.

$P = 1.10$, $B = 161$, $A = ?$

$A = 1.10 \times 161$

$= 177.1$

Base Percent Equation

$$\text{Amount(A)} = \text{Percent(P)} \times \text{Base(B)}$$

$$A = P \times B$$

Example 4:

What percent of 41 is 24.6?
Identify the percent, the base, and the amount. Round to two decimal places if need be.

$A = 24.6$, $P = ?$, $B = 41$

$24.6 = P \times 41$

$P = \frac{24.6}{41} = 0.6$ → As a percent $0.6 \times 100\% = 60\%$

Example 5:

All books are 25% off of the original price at the bookstore. If a book normally costs $20, what is the sale price of the book?

Sale Price = $20 − 25% of $20

= $20 − 0.25 × $20

= $20 − $5

= $15

Example 6:

When playing basketball, Austin makes 40% of his free throws. In a recent game Austin attempted 40 free throws. How many free throws would you expect him to make?

40% of 40

0.40 x 40 = 16

We expect him to make 16 throws.

Example 7:

Suppose your school costs for this term were $9560 and financial aid covered 75% of that amount.

a) How much did financial aid cover? $7170

b) How much do you still have to pay? $2390

School Costs = $9560

a) Financial Aid Covers = 75% of $9560

= 0.75 × 9560

= $7170

b) You still have to pay = $9560 − $7170 = $2390