Rates

Objective: To determine unit rates
Vocabulary:

- **Rate**: a ratio that compares two quantities with different kinds of units.

- **Unit Rate**: a rate with a denominator of 1.
## Common Unit Rates

<table>
<thead>
<tr>
<th>Rate</th>
<th>Unit Rate</th>
<th>Abbreviation</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>number of miles per 1 hour</td>
<td>miles per hour</td>
<td>mi/h or mph</td>
<td>average speed</td>
</tr>
<tr>
<td>number of miles per 1 gallon</td>
<td>miles per gallon</td>
<td>mi/gal or mpg</td>
<td>gas mileage</td>
</tr>
<tr>
<td>number of dollars per 1 pound</td>
<td>price per pound</td>
<td>dollars/lb</td>
<td>unit price</td>
</tr>
</tbody>
</table>
Find the Unit Rate:

a) $300 for 6 hours

1) Write as a ratio or fraction

\[
\frac{\$300}{6 \text{ hours}}
\]

2) Divide

\[300 \div 6 = 50\]

3) Label the answer

$50 \text{ per hour}$
Find the Unit Rate:

b) 220 miles on 8 gallons

1) Write as a ratio or fraction

\[
\frac{220 \text{ miles}}{8 \text{ gallons}}
\]

2) Divide

\[220 \div 8 = 27.5\]

3) Label the answer

27.5 miles per gallon
Find the Unit Rate:

c) 4-pack of mixed fruit for $2.12

1) Write as a ratio or fraction
\[
\frac{\$2.12}{4\text{-pack}}
\]

2) Divide
\[
2.12 \div 4 = 0.53
\]

3) Label the answer
\[
$0.53 \text{ per pack}
\]
Find the Best Deal:

Tito wants to buy some peanut butter to donate to the local food pantry. Tito wants to buy as much peanut butter as possible. Which brand should he buy?

1) Find the unit rate for each brand

<table>
<thead>
<tr>
<th>Peanut Butter Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand</strong></td>
</tr>
<tr>
<td>Nutty</td>
</tr>
<tr>
<td>Grandma’s</td>
</tr>
<tr>
<td>Bee’s</td>
</tr>
<tr>
<td>Save-A-Lot</td>
</tr>
</tbody>
</table>

**Nutty:** \[
\frac{\$2.19}{12 \text{ ounces}} = \frac{2.19}{12} = 0.1825
\]

**Grandma’s:** \[
\frac{\$2.79}{18 \text{ ounces}} = \frac{2.79}{18} = 0.155
\]

**Bee’s:** \[
\frac{\$4.69}{28 \text{ ounces}} = \frac{4.69}{28} = 0.1675
\]

**Save-A-Lot:** \[
\frac{\$6.60}{40 \text{ ounces}} = \frac{6.60}{40} = 0.165
\]

2) Compare the unit rates. Find the lowest price.

Grandma’s
Homework:  Pg. 13-14 #1-15 all  
Pg. 16 #24-30 evens