F: Applying Fraction Operations Continued

Examples

1. ~iam earns \$40/h. For time worked above 40h he earns time and a half. How much does he earn if he works:

a) 44h.

$44 - 40 = 4h$ (overtime)

$40h \times \$40 = \$1600$

$4h \times \$60 = \$240$

$$\boxed{TOTAL = \$1840}$$

Overtime

Time and a half
$= 40\left(1\frac{1}{2}\right)$
$= \frac{40}{1}\left(\frac{3}{2}\right)$
$= \$60$

b) $46\frac{3}{4}h$

$46\frac{3}{4} - 40 = 6\frac{3}{4}$ overtime

Reg

$40 \times 40 = 1600$

$1600 + 405 = \boxed{\$2005}$

Overtime

$6\frac{3}{4} \times 60$
$= \frac{27}{4} \times \frac{\overset{15}{60}}{1}$
$= \$405$

2. $\frac{1}{2}$ of a chocolate bar is left over. Two people equally share $\frac{3}{4}$ of the bar.

a) What fraction of the bar did each person eat?

$\frac{3}{4}$ of $\frac{1}{2}$

$= \frac{3}{4} \times \frac{1}{2}$

$= \frac{3}{8}$

$\frac{3}{8} \div \frac{2}{1}$

$= \frac{3}{8} \times \frac{1}{2}$

$= \frac{3}{16}$

Each person eats $\frac{3}{16}$ of the bar.

b) What fraction of ~~the~~ the bar is now left over?

$= \quad ($

$=$

$=$

$1 - \frac{1}{2} - 2\left(\frac{3}{16}\right)$

$= \frac{1}{1} - \frac{1}{2} - \frac{3}{8}$

$= \frac{8}{8} - \frac{4}{8} - \frac{3}{8}$

$= \frac{1}{8}$

3. Table salt contains sodium & hydroxide. Sodium is usually $\frac{4}{5}$ of the mass of the salt.

a) What is the mass of sodium in $200g$ of salt.

$\frac{4}{5}$ of 200

$= \frac{4}{5} \times \frac{\overset{40}{\cancel{200}}}{1}$

$= 160g$

b) What is the mass of hydroxide in 350g of salt?

$1 - \frac{4}{5}$

$\frac{5}{5} - \frac{4}{5}$

$= \frac{1}{5}$

$\frac{1}{5}$ of 350

$= \frac{1}{5} \times \frac{350}{1}$

$= \frac{70}{1}$

$= 70 \text{ g}$

Assignment. Pg. 234 # 6 - 12.