G5-M4-Lesson 8

1. Rewrite the following expressions as shown in the example.

   Example: $\frac{4}{7}+\frac{4}{7}+\frac{4}{7}=\frac{3\times 4}{7}=\frac{12}{7}$

   This expression is repeatedly adding 2 fifths. I can write it as a multiplication expression. This is the same as $4\times\frac{2}{5}$, or $\frac{4\times 2}{5}$.

   a. $\frac{3}{2}+\frac{3}{2}+\frac{3}{2}$

   $\frac{3}{2}+\frac{3}{2}+\frac{3}{2}=\frac{3\times 3}{2}=\frac{9}{2}$

   b. $\frac{2}{5}+\frac{2}{5}+\frac{2}{5}+\frac{2}{5}$

   $\frac{2}{5}+\frac{2}{5}+\frac{2}{5}+\frac{2}{5}=\frac{4\times 2}{5}=\frac{8}{5}$

2. Solve each problem in two different ways. Express your answer in simplest form.

   a. $\frac{2}{5}\times 30$

   $\frac{2}{5}\times 30=\frac{2\times 30}{5}=\frac{60}{5}=12$

   In this method, I simplified after I multiplied.

   $\frac{2}{5}\times 30=\frac{2\times \cancel{30}^{6}}{\cancel{5}_{1}}=12$

   In this method, I see that 30 and 5 have a common factor of 5. I can divide both 30 and 5 by 5, and now I can think of the fraction as $\frac{2\times 6}{1}$.

   b. $32\times\frac{7}{8}$

   This method involved some larger numbers that are challenging to do mentally.

   $32\times\frac{7}{8}=\frac{32\times 7}{8}=\frac{224}{8}=28$

   Dividing by a common factor of 8 made this method much simpler! I can do this mentally.

   $32\times\frac{7}{8}=\frac{\cancel{32}^{4}\times 7}{\cancel{8}_{1}}=28$

3. Solve any way you choose.

   $\frac{3}{4}\times 60$

   $\frac{3}{4}\times 60=\frac{3\times 60}{4}=\frac{180}{4}=45$

   Since there are 60 minutes in an hour, this is the expression I can use to find how many minutes are in $\frac{3}{4}$ of an hour.

   $\frac{3}{4}$ hour = ___ minutes

   $\frac{3}{4}$ *hour* = 45 *minutes*

   I could have solved by simplifying before I multiplied.

   $\frac{3}{4}\times 60=\frac{3\times \cancel{60}^{15}}{\cancel{4}_{1}}=45$