Simplify the following : $\frac{2}{3}\left(x-\frac{1}{2}\right)+\frac{1}{5}\left(x+\frac{1}{3}\right)-\frac{3}{5}$

Solution:

First we need to open up brackets

$$\frac{2}{3}\left(x-\frac{1}{2}\right)+\frac{1}{5}\left(x+\frac{1}{3}\right)-\frac{3}{5}=\frac{2}{3}x-\frac{2}{3}*\frac{1}{2}+\frac{1}{5}x+\frac{1}{5}*\frac{1}{3}-\frac{3}{5}$$

Then grouping terms with x, and fractions whit out x. And then summarize fractions by finding the common denominators.

$$=\left(\frac{2}{3}+\frac{1}{5}\right)x-\frac{1}{3}+\frac{1}{15}-\frac{3}{5}=\left(\frac{5*2+3*1}{15}\right)x+\frac{-1*5+1-3*3}{15}$$
$$=\frac{13}{15}x+\frac{-13}{15}=\frac{13}{15}(x-1)$$

Answer: $\frac{13}{15}(x-1)$