Solve the following problems where fractions are used as operators.

a) \( \frac{2}{3} \) of the floor tiles needed to be replaced. The total number of equal sized tiles on the floor was 60. How many tiles had to be replaced?

\[
\frac{1}{3} \times 60 = 20; \quad \frac{2}{3} \times 60 = 40
\]

b) How much would you pay for a $132 pair of shoes marked 25% off?

\[
25\% = \frac{1}{4} \\
\frac{1}{4} \times 132 = 132 \div 4 \\
132 \div 4 = 33 \\
132 - 33 = \$99
\]

c) Which is the larger, \( \frac{3}{5} \) of 45 or \( \frac{4}{5} \) of 40?

(We cannot assume that the second one is the largest just because \( \frac{4}{5} \) is a larger fraction than \( \frac{3}{5} \), as they relate to different wholes).

\( \frac{3}{5} \) of 45:

\[
\frac{1}{5} \times 45 = 9 (45 \div 5) \\
\frac{3}{5} \times 45 = 27 (3 \times 9)
\]

\( \frac{4}{5} \) of 40:

\[
\frac{1}{5} \times 40 = 8 (40 \div 5) \\
\frac{4}{5} \times 40 = 32 (4 \times 8)
\]

Or

\[
\frac{1}{5} \times 40 = 8 (40 \div 5) \\
\frac{4}{5} = 40 - 8 \\
40 - 8 = 32
\]
Therefore $\frac{4}{5}$ of 40 is larger than $\frac{3}{5}$ of 45.