1. The word problem below is solved in two ways. Continue both solutions.

A 500-cm stick is to be divided into two pieces so that the lengths of the pieces are in the ratio 2:5. How long are the pieces?

\[
\begin{array}{c|c|c}
2x & 5x & 500 \\
\hline
\end{array}
\]

(i) \(2x + 5x = 500\)

\[
\begin{array}{c|c|c}
z & 500 - z & 500 \\
\hline
\end{array}
\]

(ii) \(\frac{z}{500 - z} = \frac{2}{5}\)

2. Solve the proportions.

a. \(\frac{4}{x} = \frac{15}{55}\)

b. \(\frac{5a}{7} = \frac{-2}{11}\)

c. \(\frac{x + 4}{5} = \frac{5}{12}\)

d. \(\frac{4 - x}{x + 5} = \frac{5}{8}\)

e. \(\frac{x - 2}{12} = \frac{x + 6}{10}\)

f. \(\frac{-3}{y - 9} = \frac{3}{y + 5}\)

3. Jack and Jill shared the salary of $800 so that their salaries were in the ratio 3:7. Find each person's salary.

4. Mary worked 7 hours and Michael worked 11 hours on a job. How should they divide the salary of $200?

5. Liz owns 20 acres of a 90-acre plot, and her brother Les owns the rest. How should they divide a $300 additional tax on the land?

6. Melinda, Marsha, and Joanna paid an extra $35 fee for a suitcase on an airline. Of its contents, 12 lb was Melinda's, 17 lb was Marsha's, and 21 lb was Joanna's. How should they divide the fee? (Hint: Use method (i) of problem 1.)