More Adding and Subtracting Fractions

In 1 through 12, simplify each expression.

1. \(\frac{4}{6} + \frac{2}{9}\)  
2. \(\frac{2}{7} + \frac{1}{2}\)  
3. \(\frac{8}{12} + \frac{1}{6}\)  
4. \(\frac{3}{8} + \frac{1}{6}\)  
5. \(\frac{1}{12} + \frac{7}{9}\)  
6. \(\frac{4}{18} + \frac{2}{9}\)  
7. \(\frac{1}{3} + \frac{1}{4}\)  
8. \(\frac{5}{15} + \frac{3}{5}\)  
9. \(\frac{1}{2} - \left(\frac{1}{8} + \frac{1}{8}\right)\)  
10. \(\frac{3}{4} + \left(\frac{1}{4} - \frac{1}{6}\right)\)  
11. \(\left(\frac{1}{2} + \frac{3}{20}\right) - \frac{2}{20}\)  
12. \(\left(\frac{2}{5} + \frac{1}{5}\right) - \frac{3}{10}\)

13. A plumber is fitting a water pipe that is \(\frac{3}{4}\) foot long on to a water pipe that is \(\frac{2}{12}\) foot long. How long will the finished pipe be?
   
   A  \(\frac{11}{12}\) foot  
   B  \(\frac{8}{16}\) foot  
   C  \(\frac{2}{12}\) foot  
   D  1 foot

14. Joel made some muffins. He gave \(\frac{1}{4}\) of the muffins to a neighbor. He took \(\frac{3}{8}\) of the muffins to school. What fraction of the muffins is left?
   
   A  \(\frac{4}{12}\)  
   B  \(\frac{3}{8}\)  
   C  \(\frac{5}{12}\)  
   D  \(\frac{8}{8}\)

15. Carl has three lengths of cable, \(\frac{5}{6}\) yard long, \(\frac{1}{4}\) yard long, and \(\frac{2}{3}\) yard long. He needs at least 1 yard of cable.

   a  Which two pieces together make a length at least 1 yard and closest to 1 yard?

   b  If Carl uses the two shortest pieces, how much more cable would he need?

   c  After Carl has used 1 yard of cable, how much cable will he have left? Explain how you found your answer.