1. The mass of a jar is 750 g when it is $\frac{1}{2}$ filled with orange juice. The same jar has a mass of 625 g when it is $\frac{1}{4}$ filled with orange juice.
    a. What is the mass of the jar when it is $\frac{3}{4}$ filled with orange juice?
    b. What is the mass of the jar when it is empty?

2. Nadia has 3 times as many stamps as Evan and 50 more stamps than Kate. They have 972 stamps altogether. How many more stamps does Kate have than Evan?

3. There are 24 girls and 18 boys in a class. What is the ratio of the number of boys to the total number of students in the class?

4. Jayden, Maggy, and Ramon shared $49 in the ratio 2:5:7. How much more did Ramon get than Jayden?

5. There are 16 red buttons and some black buttons in a box. The ratio of the number of red buttons to that of black buttons is 2:3. If 5 red buttons are added into the box, what is the new ratio?

6. The ratio of points scored by 3 boys on a math test is 7:10:12. If the sum of their scores is 232, what is the highest score?

7. Lucas $272, and Kelly had $804. Both of them spent the same amount of money. The ratio of Lucas's money to Kelly's money then became 2:9. How much money did they spend altogether?

8. The ratio of the number of chickens to the number of ducks on a farm was 3:8. There were 40 more ducks than chickens. When half the chickens and some of the ducks were sold, the ratio of the number of chickens to the number of ducks became 3:4. How many ducks were sold?

9. Cameron and Peter shared a box of markers in the ration of 5:3. Cameron gave half of his share to Peter. Peter then had 30 more markers than Cameron. How many markers did Cameron give to Peter?