Multi-Step Word Problems
Fractions of Amounts **Answers**

1. Sarah entered a 500-word story competition. She wrote her story over two evenings. On the first evening, she wrote $\frac{6}{10}$ and on the second evening she wrote the rest.
   a. How many words did she write on the first evening? **300 words**
   b. How many words did she write on the second evening and what fraction was this? **200 words = $\frac{4}{10}$** or **$\frac{2}{5}$**
2. Two families, the Smiths and the Taylors, go to a restaurant for a meal. At the end of the night, when they pay their £150 bill, they decide to split the bill equally between the two families. Mr Smith pays for his family's half of the bill. The Taylor family, however, decide to split their half of the bill between each of their family members, each member paying $\frac{1}{3}$ of their family's bill.
   a. How much do the Smiths pay? **£75**
   b. How much do each member of the Taylor family pay? **£25 each**
3. There were 150 school children going on a school residential trip. There were 3 coaches, each carrying $\frac{1}{3}$ of the children. On coach B, $\frac{1}{10}$ of the children had medication with them.
   a. How many children were on each coach? **50 children on each coach**
   b. How many children had medication on coach B? **5 children**
4. A retired couple won £800 on the lottery. They decided to give $\frac{5}{8}$ to their family and to spend $\frac{3}{8}$ on a weekend away for themselves.
   a. How much money did the couple give to their family? **£500**
   b. How much money did they spend on their weekend away? **£300**
5. Jane watched a film that was 120 minutes long. $\frac{5}{6}$ of the way through the film, the doorbell rang. She paused the film to answer the door and it was the postman with a parcel.
   a. How many minutes of the film had she watched before the postman arrived? **100 minutes** or **1 hour and 40 minutes**
   b. How many minutes of the film did she have left to watch? **20 minutes = $\frac{1}{6}$** or **$\frac{20}{120}$** or **$\frac{2}{12}$**
6. A cake maker is baking a wedding cake that needs three different sized tiers. The mixture has a mass of 4000g. He uses $\frac{1}{2}$ of the mixture for the bottom tier, $\frac{3}{8}$ of the mixture for the middle tier and $\frac{1}{8}$ of the mixture for the top tier.
   a. What is the mass of the mixture in the bottom tier? **2000g** or **2kg**
   b. What is the mass of the mixture in the middle tier? **1500g** or **1.5kg**
   c. What is the mass of the mixture in the top tier? **500g** or **0.5kg**
7. A dressmaker has 12m of fabric to make an outfit. He makes a bag with $\frac{1}{12}$ of the fabric, a skirt with $\frac{1}{2}$ of the fabric and a top with the rest.
   a. How much fabric is used for the bag? **1m**
   b. How much fabric is used for the skirt? **6m**
   c. How much fabric is used for the top and what is this as a fraction of the total fabric? **5m = $\frac{5}{12}$**
8. A chef ordered thirty-six eggs for her restaurant. $\frac{1}{12}$ of the eggs were used for a chocolate brownie special and $\frac{1}{4}$ of the eggs were used for cooked breakfasts. From the remainder, $\frac{1}{2}$ of the eggs were used for the meringue in an Eton Mess pudding.
   a. How many eggs were used for the chocolate brownie? **3**
   b. How many eggs were used for the breakfasts? **9**
   c. How many eggs were used for the Eton Mess? **12**
   d. How many eggs were left? **12**
9. At the Olympics, a country won 60 medals. $\frac{1}{2}$ of the medals were gold, $\frac{1}{3}$ of the medals were silver and $\frac{1}{6}$ of the medals were bronze.
   a. How many medals were gold? **30**
   b. How many medals were silver? **20**
   c. How many medals were bronze? **10**
10. At the local triathlon, competitors travel a total distance of 20km. They cycle $\frac{4}{5}$ of the distance, run $\frac{3}{20}$ of the distance and swim $\frac{1}{20}$ of the distance.
    a. How far do the competitors cycle? **16km**
    b. How far do the competitors run? **3km**
    c. How far do the competitors swim? **1km**