

**'Reverse Fraction' Problems**

- (1)  $\frac{4}{5}$  of a number is 8. Find (a)  $\frac{1}{5}$  of that number (b)  $\frac{3}{5}$  of that number.
- (2) Tim is thinking of a number.  $\frac{3}{4}$  of a number is 9. Find 50% of the number Tim was thinking of.
- (3) A bath is  $\frac{2}{3}$  full. The bath currently has 20lts of water in. How much water can the bath hold when full?
- (4) In a class  $\frac{2}{7}$  of the students are boys. Given that there were 6 boys in the class (a) Find the number of students in the class (b) Find the number of girls in the class (c) Write down the ratio of boys to girls in its simplest form.
- (5)  $\frac{8}{9}$ ths of Fred's savings are worth £48. How much is half of his savings worth?
- (6) A bath is two thirds full. Given that there is room for another 12 litres, find the capacity of the bath.
- (7) 30% of a school is made up of girls. Given that there are 36 girls in the school, find the number of boys in the school.
- (8) Sue has  $\frac{11}{12}$  of a cake. Half of what she has weighs 55g. How much does the whole cake weigh?
- (9)  $\frac{4}{3}$  of a number is 28. Find 20% of the number.
- (10) In a class there are 10 spare seats. Given that  $\frac{3}{5}$  of the seats are taken, find the total number of seats in the class.

**'Reverse Percentage' Problems**

- (1) A t shirt costs £27 after a 10% **discount**. Find the original price of the T shirt.
- (2) Peter has a wage **increase** of 10%. He now earns £220. What did he earn before?
- (3) A jumper is **reduced** by 15%. The new price is £34. Find the original price.
- (4) The value of a boat rises by 6% to £132.50. Find the original value of the boat.
- (5) A man loses 25% of his bodyweight. He now weighs 84kg. Find his original weight.
- (6) A car depreciates by 18%. Its new value is £16400. Find its original value.
- (7) The price of a bag increases by 26%. The new price is £182.70. Find the original price.
- (8) A house loses a quarter of its value. The house is now worth £240'000. Find the value of the house before.
- (9) A lady increases her number of sessions at the gym each week by 10%. She now attends 22 sessions a week. How many sessions did she attend previously?
- (10) Bob buys a boat. The boat increases by 10% in a year followed by another 20% the following year. At the end of the second year it was worth \$455.40. What was it worth originally?

**'Reverse Decimal Problems' (Extension)**

- (1) 0.2 of a number is 4. Find 35% of the number.
- (2) 1.2 of a number is 144. Find  $\frac{1}{4}$  of the number.
- (3) The value of a car increase by 0.15 to £17250. Find the original value of the car.
- (4) 0.45 of a number = 16.2. Find 300% of that number.
- (5)  $0.3y = x$ . Write  $y$  as a percentage of  $x$ .