

### 3-3-4 Word Problems

Dissect each question. "Is" usually means equals, and "of" is times.

Other words to know are sum - the answer to an addition problem, difference - the answer to a subtraction problem, product - the answer to a multiplication problem, and quotient - the answer to a division problem.

Example:  $\frac{3}{8}$  of a number is 15. What is the number? " $\frac{3}{8}$  of" says " $\frac{3}{8}$  times."

$(\frac{3}{8})n=15$       Multiply both sides by  $\frac{8}{3}$ .     $n=40$

Practice: Each of the following can be solved as a one-step equation.

a) 45 is 62 more than a number. What is the number?      3 times a number is 54. Find the number.

b) What is a number if 15 times the number is 250?      4 more than a number is 12. What is the number?

c) 12 and a number is 534. What is the number?      126 is a number times 9. What is the number?

d)  $\frac{2}{3}$  of a number is 108. What is the number?      What is a number if the number and 423 is negative 34?

e) -5 and a number is -15. What is the number?      -35 is a number times -5. What is the number?

f)  $3\frac{2}{5}$  and a number is  $1\frac{3}{8}$ . What is the number?       $-5\frac{3}{4}$  is a number added to  $3\frac{3}{8}$ . What is the number?

g) The sum of a number and  $\frac{2}{5}$  is  $\frac{3}{8}$ . What is the number?      15 is the sum of a number and  $3\frac{1}{2}$ . What is the number?

h) The difference of a number and 15 is 27. What is the number?      The difference of 45 and a number is 27. What is the number? (Technically this is a two step equation.)

i) What is a number that when added to 105 sums to 24?      A number is subtracted from 45. The result is 23?

j)  $\frac{4}{5}$  of a number is  $\frac{7}{12}$ . What is the number?       $4\frac{2}{3}$  times a number is  $-8\frac{3}{4}$ . What is the number?

k) 42 and a number is -75. What is the number?      What number when added to negative five hundred results in 34?

