

## Notes on Word Problems

1. Twice the sum of 4 and some number is 34. What is the number?

Break the problem into parts:

**Twice the sum** means 2 times Sum.

**Now, what is sum?** Sum is 4 plus some number or  $4+x$

So the phrase "**Twice the sum of 4 and some number**" becomes  $2(4+x)$ .

What does it equal? It equals 34 so  $2(4+x) = 34$

2. Doug paid \$72 for a shockproof portable CD player during a 20% off sale. What was the original price?

We don't know what the original price was so let it be **p**.

They deduct **20% of p** or  $\frac{20}{100} \cdot p$  so now the price is  $p - \frac{20}{100} \cdot p$

And this is \$72. So  $p - \frac{20}{100} \cdot p = 72$ . Factor and solve:  $p \left( 1 - \frac{20}{100} \right) = 72$

and  $0.8p = 72$  and  $p = \$90$

3. The Iditarod sled-dog race extends for 1049 miles from Anchorage to Nome. If a musher is twice as far from Anchorage as from Nome, how many miles has the musher traveled?

There are two pieces to this picture and one piece is twice the length of the other piece. Let one piece be **x** then the other piece will be **2x**. The sum of these two pieces is 1049 so  **$x+2x=1049$**  or  **$3x=1049$**  and  $x = 349.66$  and  $2x$  is 699.33