Task. Jack is twice as old as Jill and 4 years ago Jacks age was thrice as Jills. Find their present age.

Solution. Let K be the age of Jack, and L be the ages of Jill. Then

$$K = 2L.$$

Moreover, by assumption 4 years ago Jacks age was thrice as Jills. At that time Jacks age was $K - 4$ and Jill's age was $L - 4$, so

$$K - 4 = 3(L - 4).$$

Substituting $K = 2L$ we obtain

$$2L - 4 = 3(L - 4) \quad \Rightarrow \quad 2L - 4 = 3L - 12 \quad \Rightarrow \quad 3L - 2L = 12 - 4 \quad \Rightarrow \quad L = 8.$$

Hence

$$K = 2L = 2 * 8 = 16.$$

Answer. Jack is 16 years old, and Jill is 8 years old.