

**18. The sum of two numbers is 10. Twice the first number, increased by the second number, is 18. Find the 1<sup>st</sup> number and the 2<sup>nd</sup> number. [II, 10]**

**Solution:**

Let the 1<sup>st</sup> number be represented by the blue pawn: ▲

The 2<sup>nd</sup> number is:  $\boxed{10}$  ▲

(You can verify that the sum of the above two numbers is 10. When they are added together, the blue and white pawn together is worth zero, and only 10 is left.)

Since twice the first number, increased by the second number, is 18, set up the equation as follows:

$$\begin{array}{c} \blacktriangle \blacktriangle \boxed{10} \triangle \\ \hline \blacktriangle \blacktriangle \boxed{10} \boxed{8} \end{array}$$

$$\blacktriangle = 8$$

**Answer:** The 1<sup>st</sup> number is 8; the 2<sup>nd</sup> number is 2.

**Check:**  $18 = 18$ .

**19. The sum of two numbers is 20. When 3 times the first number is increased by 2, and then doubled, the result is the same as when the second number is doubled, and then increased by 4. Find the numbers. [II, 16]**

**Solution:**

Let the 1<sup>st</sup> number be: ▲

Then the 2<sup>nd</sup> number is:  $\boxed{10}$   $\boxed{10}$  ▲

$$\begin{array}{c} \blacktriangle \blacktriangle \blacktriangle \boxed{2} \quad \blacktriangle \blacktriangle \blacktriangle \boxed{2} \\ \hline \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \boxed{4} \end{array}$$

$$\blacktriangle = 5$$

**Answer:** The 1<sup>st</sup> number is 5; the 2<sup>nd</sup> number is 15. **Check:**  $34 = 34$ .

**20. The sum of two numbers is 18. If three times the first number is increased by twice the second number, the result is the same as 4 times the first number, increased by 3. Find the numbers. [II, 16]**

**Solution:**

Let the 1<sup>st</sup> number be: ▲

Then the 2<sup>nd</sup> number is:  $\boxed{10}$   $\boxed{8}$  ▲

$$\begin{array}{c} \blacktriangle \blacktriangle \blacktriangle \quad \boxed{10} \boxed{8} \triangle \quad \blacktriangle \blacktriangle \blacktriangle \quad \boxed{10} \boxed{8} \triangle \\ \hline \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \blacktriangle \quad \boxed{3} \end{array}$$

$$\blacktriangle = 11$$

**Answer:** 1<sup>st</sup> number is 11; 2<sup>nd</sup> number is 7. **Check:**  $47 = 47$ .