# Ирационални уравнения с два радикала

## Задачи за упражнение

### І. Без да решавате уравненията докажете, че нямат решение:

1. 
$$\sqrt{x+4} + \sqrt{2x+1} = -1$$
;

2. 
$$\sqrt{x^2+5} + \sqrt{x+1} = 0$$
;

3. 
$$\sqrt{x} + \sqrt{x+5} = 2$$
;

4. 
$$\sqrt{x-9} + \sqrt{4-x} = 10$$
.

#### II. Решете уравнението:

1. 
$$\sqrt{x+7}.\sqrt{6-x} = x+4$$
;

2. 
$$\sqrt{2x-1}.\sqrt{5x-9} = 3(1-x)$$
;

3. 
$$2\sqrt{x-3}.\sqrt{3x-11} = 15-3x$$
:

4. 
$$\sqrt{x-9} = \sqrt{1-x}$$
;

5. 
$$\sqrt{x^2+7x+1} = \sqrt{5x+4}$$
;

6. 
$$\sqrt{x^2-9x+8} = \sqrt{1+x-2x^2}$$
:

7. 
$$\sqrt{2x-1} + \sqrt{1-2x} = 0$$
;

8. 
$$\sqrt{4-x} + \sqrt{x-2} = 2$$
;

9. 
$$\sqrt{2x-1} + \sqrt{x-5} = 3$$
;

10. 
$$2\sqrt{x+1} + \sqrt{3x+1} = 11$$
;

11. 
$$\sqrt{7-2x} + \sqrt{x+1} = 3$$
;

12. 
$$\sqrt{4x-10} - \sqrt{2x+2} = 1$$
;

13. 
$$\sqrt{x+10} + \sqrt{15-x} = 7$$
;

14. 
$$\sqrt{10-x} + \sqrt{2x+7} = 6$$
;

15. 
$$\sqrt{2x-4} - \sqrt{x+5} = 1$$
;

16. 
$$\sqrt{15-x} + \sqrt{3-x} = 6$$
;

17. 
$$\sqrt{2x+3} + \sqrt{3x+2} = 2\sqrt{5}$$

18. 
$$\sqrt{13-x} + \sqrt{x-3} = \sqrt{10}$$
;

19. 
$$\sqrt{25-x} + \sqrt{x+9} = 2$$
;

$$20. \sqrt{x-4} + \sqrt{1-x} = x-3;$$

$$21.\sqrt{x} + \sqrt{3x + \frac{13}{4}} = \frac{5}{2};$$

$$22.\sqrt{2x+\sqrt{2x+5}}=5$$
;

$$23.\sqrt{5x+6+\sqrt{x+10}}=2;$$

$$24.\sqrt{1+x\sqrt{x^2+12}}=1+x$$

$$25.\sqrt{x^2 + 5 + \sqrt{3x^2 + 1}} = x + 1$$

### III. Решете уравненията чрез полагане:\*

1. 
$$\sqrt{4x^2 + 3x + 14} - \sqrt{4x^2 + 3x + 3} = 1$$
;

2. 
$$\sqrt{15x^2+6x+4}-\sqrt{10x^2+4x+2}=1$$
;

3. 
$$\sqrt{5x^2+3x+1}+\sqrt{5x^2+3x+8}=7$$
;

4. 
$$\sqrt{\frac{x+5}{x}} + 4\sqrt{\frac{x}{x+5}} = 4$$
;

### IV. Решете уравненията:\*\*

1. 
$$\sqrt{x^2+6x+9} + \sqrt{x^2-4x+4} = 11$$
;

2. 
$$\sqrt{25x^2-20x+4}-\sqrt{9x^2-6x+1}=1$$
.