

УСЛОВИЯ

Вариант 1.

$$1. 10\sqrt{\frac{10x+5}{9x-1}} + 2\sqrt{\frac{9x-1}{10x+5}} = 9$$

$$2. (x-8)(x+3) - 62 = 4\sqrt{x^2 - 5x - 26}$$

$$3. \frac{\sqrt{9x-6}}{9x-1} - \frac{5}{\sqrt{9x-6}} - \sqrt{9x-6} + \frac{80}{9} = 0$$

$$4. 10\sqrt{-x+5} = 3 - \sqrt[4]{-x+5}$$

$$5. \sqrt{12x^2 + 5x + 14} - \sqrt{12x^2 + 5x + 62} = -4$$

$$6. \frac{12x+24}{3x+5} - \sqrt{\frac{2x+4}{5x+7}} - \frac{6x+10}{5x+7} = 0$$

$$7. \frac{8\sqrt[3]{x}-1}{8\sqrt[3]{x}-3} + \frac{16\sqrt[3]{x^2}-20\sqrt[3]{x}+7}{32\sqrt[3]{x^2}+4\sqrt[3]{x}-6} = \frac{4x-\sqrt[3]{x^2}}{4x+2\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{-7+5x} + \sqrt[3]{72-5x} = 5$$

Вариант 2.

$$1. 4\sqrt{\frac{6x-1}{5x+3}} - 5\sqrt{\frac{5x+3}{6x-1}} = -8$$

$$2. (x+7)(x+2) - 3 = 2\sqrt{x^2 + 9x + 19}$$

$$3. \frac{\sqrt{9x+1}}{9x+9} - \frac{8}{\sqrt{9x+1}} - \sqrt{9x+1} + \frac{80}{9} = 0$$

$$4. 4\sqrt{-6x+1} = 5 - 8\sqrt[4]{-6x+1}$$

$$5. \sqrt{12x^2 - 7x + 17} - \sqrt{12x^2 - 7x + 10} = 1$$

$$6. \frac{20x-10}{3x+7} + 7\sqrt{\frac{2x-1}{2x+2}} + \frac{3x+7}{2x+2} = 0$$

$$7. \frac{6\sqrt[3]{x}-7}{6\sqrt[3]{x}-9} + \frac{9\sqrt[3]{x^2}-33\sqrt[3]{x}+31}{18\sqrt[3]{x^2}-33\sqrt[3]{x}+9} = \frac{3x-4\sqrt[3]{x^2}}{3x-\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{9+7x} + \sqrt[3]{26-7x} = 5$$

Вариант 3.

$$1. 9\sqrt{\frac{4x+8}{10x+1}} - 10\sqrt{\frac{10x+1}{4x+8}} = -9$$

$$2. (x-8)(x+7) + 3 = 3\sqrt{x^2 - x - 49}$$

$$3. \frac{\sqrt{7x+8}}{7x+10} - \frac{2}{\sqrt{7x+8}} - \sqrt{7x+8} + \frac{48}{7} = 0$$

$$4. 10\sqrt{-x-4} = 2 + \sqrt[4]{-x-4}$$

$$5. \sqrt{6x^2 - 5x + 26} - \sqrt{6x^2 - 5x + 2} = 4$$

$$6. \frac{90x-18}{5x+8} - 9\sqrt{\frac{10x-2}{5x+4}} - \frac{50x+80}{5x+4} = 0$$

$$7. \frac{8\sqrt[3]{x}+3}{8\sqrt[3]{x}+1} + \frac{16\sqrt[3]{x^2}-4\sqrt[3]{x}+1}{32\sqrt[3]{x^2}+36\sqrt[3]{x}+4} = \frac{4x+\sqrt[3]{x^2}}{4x+4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{8+6x} + \sqrt[3]{57-6x} = 5$$

Вариант 4.

$$1. 10\sqrt{\frac{6x+7}{6x+10}} + 2\sqrt{\frac{6x+10}{6x+7}} = 9$$

$$2. (x+4)(x-7) + 3 = 4\sqrt{x^2 - 3x - 20}$$

$$3. \frac{\sqrt{7x+3}}{7x+10} - \frac{7}{\sqrt{7x+3}} - \sqrt{7x+3} + \frac{48}{7} = 0$$

$$4. 6\sqrt{x-3} = 1 + \sqrt[4]{x-3}$$

$$5. \sqrt{10x^2 + 7x + 75} - \sqrt{10x^2 + 7x + 94} = -1$$

$$6. \frac{8x-8}{x-5} - 4\sqrt{\frac{2x-2}{2x-7}} - \frac{3x-15}{2x-7} = 0$$

$$7. \frac{6\sqrt[3]{x}+5}{6\sqrt[3]{x}+3} + \frac{9\sqrt[3]{x^2}+3\sqrt[3]{x}+1}{18\sqrt[3]{x^2}+39\sqrt[3]{x}+15} = \frac{3x+2\sqrt[3]{x^2}}{3x+5\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{56+8x} + \sqrt[3]{16-8x} = 6$$

Вариант 5.

$$1. 6\sqrt{\frac{4x+6}{8x-7}} - 6\sqrt{\frac{8x-7}{4x+6}} = -5$$

$$2. (x-1)(x-5) + 21 = 11\sqrt{x^2 - 6x - 2}$$

$$3. \frac{\sqrt{8x-7}}{8x-4} - \frac{3}{\sqrt{8x-7}} - \sqrt{8x-7} + \frac{63}{8} = 0$$

$$4. 10\sqrt{-9x-8} = 2 + \sqrt[4]{-9x-8}$$

$$5. \sqrt{8x^2 + 2x + 22} - \sqrt{8x^2 + 2x + 1} = 3$$

$$6. \frac{10x-2}{x+1} - 4\sqrt{\frac{10x-2}{5x+2}} - \frac{12x+12}{5x+2} = 0$$

$$7. \frac{-2\sqrt[3]{x}+3}{-2\sqrt[3]{x}+1} + \frac{\sqrt[3]{x^2}+\sqrt[3]{x}+1}{2\sqrt[3]{x^2}-9\sqrt[3]{x}+4} = \frac{-x+\sqrt[3]{x^2}}{-x+4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{24+3x} + \sqrt[3]{4-3x} = 4$$

Вариант 6.

$$1. 6\sqrt{\frac{2x-9}{9x+6}} - 6\sqrt{\frac{9x+6}{2x-9}} = -5$$

$$2. (x-3)(x+7) - 36 = \sqrt{x^2 + 4x - 15}$$

$$3. \frac{\sqrt{5x+2}}{5x+8} - \frac{6}{\sqrt{5x+2}} - \sqrt{5x+2} + \frac{24}{5} = 0$$

$$4. 10\sqrt{-x-3} = 6 - 7\sqrt[4]{-x-3}$$

$$5. \sqrt{10x^2 + 9x + 91} - \sqrt{10x^2 + 9x + 27} = 4$$

$$6. \frac{12x+8}{x-3} + 10\sqrt{\frac{3x+2}{7x-10}} + \frac{6x-18}{7x-10} = 0$$

$$7. \frac{10\sqrt[3]{x}-13}{10\sqrt[3]{x}-15} + \frac{25\sqrt[3]{x^2}-85\sqrt[3]{x}+73}{50\sqrt[3]{x^2}-115\sqrt[3]{x}+60} = \frac{5x-7\sqrt[3]{x^2}}{5x-4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{20+x} + \sqrt[3]{15-x} = 5$$

Вариант 7.

$$1. 6\sqrt{\frac{2x-3}{5x+3}} - 6\sqrt{\frac{5x+3}{2x-3}} = -5$$

$$2. (x-1)(x+3) - 31 = 4\sqrt{x^2 + 2x - 13}$$

$$3. \frac{\sqrt{10x-2}}{10x+10} - \frac{12}{\sqrt{10x-2}} - \sqrt{10x-2} + \frac{99}{10} = 0$$

$$4. 9\sqrt{-x-1} = 2 - 3\sqrt[4]{-x-1}$$

$$5. \sqrt{8x^2 - 10x + 52} - \sqrt{8x^2 - 10x + 39} = 1$$

$$6. \frac{24x-24}{2x+3} - 6\sqrt{\frac{4x-4}{3x-5}} - \frac{24x+36}{3x-5} = 0$$

$$7. \frac{-2\sqrt[3]{x}+7}{-2\sqrt[3]{x}+5} + \frac{\sqrt[3]{x^2}-3\sqrt[3]{x}+3}{2\sqrt[3]{x^2}-17\sqrt[3]{x}+30} = \frac{-x+3\sqrt[3]{x^2}}{-x+6\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{13+6x} + \sqrt[3]{-4-6x} = 3$$

Вариант 8.

$$1. 6\sqrt{\frac{9x-3}{2x-6}} - \sqrt{\frac{2x-6}{9x-3}} = 1$$

$$2. (x+2)(x+6) - 48 = -5\sqrt{x^2 + 8x + 14}$$

$$3. \frac{\sqrt{6x+2}}{6x+3} - \frac{1}{\sqrt{6x+2}} - \sqrt{6x+2} + \frac{35}{6} = 0$$

$$4. 8\sqrt{10x-9} = 3 - 2\sqrt[4]{10x-9}$$

$$5. \sqrt{6x^2 + 7x - 4} - \sqrt{6x^2 + 7x + 11} = -3$$

$$6. \frac{72x+81}{5x+6} - 6\sqrt{\frac{8x+9}{4x+4}} - \frac{10x+12}{x+1} = 0$$

$$7. \frac{-4\sqrt[3]{x}-11}{-4\sqrt[3]{x}-13} + \frac{4\sqrt[3]{x^2}+30\sqrt[3]{x}+57}{8\sqrt[3]{x^2}+38\sqrt[3]{x}+39} = \frac{-2x-6\sqrt[3]{x^2}}{-2x-3\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{8+2x} + \sqrt[3]{-6-2x} = 2$$

Вариант 9.

$$1. 10\sqrt{\frac{5x-6}{5x-2}} - 2\sqrt{\frac{5x-2}{5x-6}} = -1$$

$$2. (x-1)(x-10) - 17 = -7\sqrt{x^2 - 11x + 1}$$

$$3. \frac{\sqrt{7x-9}}{7x-2} - \frac{7}{\sqrt{7x-9}} - \sqrt{7x-9} + \frac{48}{7} = 0$$

$$4. 6\sqrt{-9x+10} = 1 + \sqrt[4]{-9x+10}$$

$$5. \sqrt{6x^2 - 7x + 61} - \sqrt{6x^2 - 7x + 33} = 2$$

$$6. \frac{8x-8}{x+1} - 6\sqrt{\frac{8x-8}{7x-9}} + \frac{8x+8}{7x-9} = 0$$

$$7. \frac{12\sqrt[3]{x}+15}{12\sqrt[3]{x}+13} + \frac{36\sqrt[3]{x^2}+66\sqrt[3]{x}+31}{72\sqrt[3]{x^2}+198\sqrt[3]{x}+130} = \frac{6x+7\sqrt[3]{x^2}}{6x+10\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{2+7x} + \sqrt[3]{7-7x} = 3$$

Вариант 10.

$$1. 6\sqrt{\frac{4x-5}{3x+3}} + \sqrt{\frac{3x+3}{4x-5}} = 5$$

$$2. (x+10)(x+7) + 10 = 10\sqrt{x^2 + 17x + 64}$$

$$3. \frac{\sqrt{7x-9}}{7x-8} - \frac{1}{\sqrt{7x-9}} - \sqrt{7x-9} + \frac{48}{7} = 0$$

$$4. 6\sqrt{-6x+1} = 3 + 7\sqrt[4]{-6x+1}$$

$$5. \sqrt{6x^2 - 11x + 15} - \sqrt{6x^2 - 11x - 6} = 3$$

$$6. \frac{8x+8}{x+3} - 4\sqrt{\frac{2x+2}{5x+3}} - \frac{3x+9}{5x+3} = 0$$

$$7. \frac{10\sqrt[3]{x}+3}{10\sqrt[3]{x}+1} + \frac{25\sqrt[3]{x^2}-5\sqrt[3]{x}+1}{50\sqrt[3]{x^2}+45\sqrt[3]{x}+4} = \frac{5x+\sqrt[3]{x^2}}{5x+4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{68+9x} + \sqrt[3]{23-9x} = 7$$

Вариант 11.

$$1. 10\sqrt{\frac{x-7}{7x+9}} - 7\sqrt{\frac{7x+9}{x-7}} = -9$$

$$2. (x+9)(x-5) - 42 = -3\sqrt{x^2 + 4x - 47}$$

$$3. \frac{\sqrt{4x+1}}{4x+2} - \frac{1}{\sqrt{4x+1}} - \sqrt{4x+1} + \frac{15}{4} = 0$$

$$4. 9\sqrt{x+4} = 4 + 9\sqrt[4]{x+4}$$

$$5. \sqrt{6x^2 - 5x + 45} - \sqrt{6x^2 - 5x + 60} = -1$$

$$6. \frac{24x+8}{x-10} - 8\sqrt{\frac{6x+2}{4x-9}} + \frac{3x-30}{4x-9} = 0$$

$$7. \frac{6\sqrt[3]{x}+3}{6\sqrt[3]{x}+1} + \frac{9\sqrt[3]{x^2}-3\sqrt[3]{x}+1}{18\sqrt[3]{x^2}+27\sqrt[3]{x}+4} = \frac{3x+\sqrt[3]{x^2}}{3x+4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{33+7x} + \sqrt[3]{-5-7x} = 4$$

Вариант 12.

$$1. 9\sqrt{\frac{6x-6}{10x+8}} - 10\sqrt{\frac{10x+8}{6x-6}} = -9$$

$$2. (x-3)(x+7) + 47 = 15\sqrt{x^2 + 4x - 24}$$

$$3. \frac{\sqrt{9x+6}}{9x+10} - \frac{4}{\sqrt{9x+6}} - \sqrt{9x+6} + \frac{80}{9} = 0$$

$$4. 9\sqrt{5x+6} = 10 - 9\sqrt[4]{5x+6}$$

$$5. \sqrt{6x^2 - 11x + 28} - \sqrt{6x^2 - 11x + 103} = -5$$

$$6. \frac{12x+18}{2x+5} - 5\sqrt{\frac{2x+3}{3x+3}} + \frac{2x+5}{3x+3} = 0$$

$$7. \frac{2\sqrt[3]{x}+7}{2\sqrt[3]{x}+5} + \frac{\sqrt[3]{x^2}+3\sqrt[3]{x}+3}{2\sqrt[3]{x^2}+17\sqrt[3]{x}+30} = \frac{x+3\sqrt[3]{x^2}}{x+6\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{67+2x} + \sqrt[3]{5-2x} = 6$$

Вариант 13.

$$1. 10\sqrt{\frac{9x-3}{7x+8}} - 9\sqrt{\frac{7x+8}{9x-3}} = 9$$

$$2. (x-6)(x+2) - 27 = -2\sqrt{x^2 - 4x - 4}$$

$$3. \frac{\sqrt{5x-7}}{5x-2} - \frac{5}{\sqrt{5x-7}} - \sqrt{5x-7} + \frac{24}{5} = 0$$

$$4. 4\sqrt{7x+2} = 3 + 4\sqrt[4]{7x+2}$$

$$5. \sqrt{6x^2 - 7x + 3} - \sqrt{6x^2 - 7x + 18} = -3$$

$$6. \frac{50x-60}{9x-9} - 3\sqrt{\frac{5x-6}{2x+3}} - \frac{9x-9}{2x+3} = 0$$

$$7. \frac{-4\sqrt[3]{x}+7}{-4\sqrt[3]{x}+5} + \frac{4\sqrt[3]{x^2}-6\sqrt[3]{x}+3}{8\sqrt[3]{x^2}-34\sqrt[3]{x}+30} = \frac{-2x+3\sqrt[3]{x^2}}{-2x+6\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{74+4x} + \sqrt[3]{17-4x} = 7$$

Вариант 14.

$$1. 8\sqrt{\frac{10x+7}{6x+8}} + 3\sqrt{\frac{6x+8}{10x+7}} = 10$$

$$2. (x+5)(x+1) + 41 = 13\sqrt{x^2 + 6x + 10}$$

$$3. \frac{\sqrt{7x-5}}{7x+1} - \frac{6}{\sqrt{7x-5}} - \sqrt{7x-5} + \frac{48}{7} = 0$$

$$4. 6\sqrt{-10x-9} = 3 + 7\sqrt[4]{-10x-9}$$

$$5. \sqrt{4x^2 - 8x + 19} - \sqrt{4x^2 - 8x + 84} = -5$$

$$6. \frac{15x+3}{4x+5} - 5\sqrt{\frac{5x+1}{x+1}} + \frac{8x+10}{x+1} = 0$$

$$7. \frac{2\sqrt[3]{x}-11}{2\sqrt[3]{x}-13} + \frac{\sqrt[3]{x^2}-15\sqrt[3]{x}+57}{2\sqrt[3]{x^2}-19\sqrt[3]{x}+39} = \frac{x-6\sqrt[3]{x^2}}{x-3\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{-3+2x} + \sqrt[3]{5-2x} = 2$$

Вариант 15.

$$1. 8\sqrt{\frac{5x+1}{7x-1}} - 9\sqrt{\frac{7x-1}{5x+1}} = 6$$

$$2. (x-2)(x+10) - 35 = -3\sqrt{x^2 + 8x - 15}$$

$$3. \frac{\sqrt{10x-1}}{10x+2} - \frac{3}{\sqrt{10x-1}} - \sqrt{10x-1} + \frac{99}{10} = 0$$

$$4. 4\sqrt{2x+3} = 3 - 4\sqrt[4]{2x+3}$$

$$5. \sqrt{9x^2 + 9x + 83} - \sqrt{9x^2 + 9x + 51} = 2$$

$$6. \frac{2x-2}{2x-1} - 2\sqrt{\frac{x-1}{10x-7}} - \frac{24x-12}{10x-7} = 0$$

$$7. \frac{-4\sqrt[3]{x}+3}{-4\sqrt[3]{x}+1} + \frac{4\sqrt[3]{x^2}+2\sqrt[3]{x}+1}{8\sqrt[3]{x^2}-18\sqrt[3]{x}+4} = \frac{-2x+\sqrt[3]{x^2}}{-2x+4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{28+2x} + \sqrt[3]{63-2x} = 7$$

Вариант 16.

$$1. 9\sqrt{\frac{3x-7}{7x+8}} + 2\sqrt{\frac{7x+8}{3x-7}} = 9$$

$$2. (x+7)(x+10) - 12 = -4\sqrt{x^2 + 17x + 63}$$

$$3. \frac{\sqrt{10x-9}}{10x+8} - \frac{17}{\sqrt{10x-9}} - \sqrt{10x-9} + \frac{99}{10} = 0$$

$$4. 6\sqrt{2x+7} = 3 + 7\sqrt[4]{2x+7}$$

$$5. \sqrt{12x^2 - 5x - 2} - \sqrt{12x^2 - 5x + 97} = -9$$

$$6. \frac{60x+54}{4x+7} - 5\sqrt{\frac{10x+9}{2x-5}} + \frac{4x+7}{2x-5} = 0$$

$$7. \frac{4\sqrt[3]{x}+13}{4\sqrt[3]{x}+11} + \frac{4\sqrt[3]{x^2}+18\sqrt[3]{x}+21}{8\sqrt[3]{x^2}+58\sqrt[3]{x}+99} = \frac{2x+6\sqrt[3]{x^2}}{2x+9\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{73+2x} + \sqrt[3]{-8-2x} = 5$$

Вариант 17.

$$1. 8\sqrt{\frac{9x+1}{7x+3}} - 3\sqrt{\frac{7x+3}{9x+1}} = 2$$

$$2. (x-3)(x+7) - 17 = -7\sqrt{x^2 + 4x - 20}$$

$$3. \frac{\sqrt{8x-7}}{8x-5} - \frac{2}{\sqrt{8x-7}} - \sqrt{8x-7} + \frac{63}{8} = 0$$

$$4. 8\sqrt{x+4} = 7 - 10\sqrt[4]{x+4}$$

$$5. \sqrt{10x^2 + x + 97} - \sqrt{10x^2 + x - 2} = 9$$

$$6. \frac{60x-30}{9x-7} - 5\sqrt{\frac{10x-5}{10x-8}} - \frac{18x-14}{5x-4} = 0$$

$$7. \frac{6\sqrt[3]{x}-13}{6\sqrt[3]{x}-15} + \frac{9\sqrt[3]{x^2}-51\sqrt[3]{x}+73}{18\sqrt[3]{x^2}-69\sqrt[3]{x}+60} = \frac{3x-7\sqrt[3]{x^2}}{3x-4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{7+5x} + \sqrt[3]{65-5x} = 6$$

Вариант 18.

$$1. 10\sqrt{\frac{10x-2}{6x-6}} - 4\sqrt{\frac{6x-6}{10x-2}} = 3$$

$$2. (x-2)(x+1) - 5 = 5\sqrt{x^2 - x + 7}$$

$$3. \frac{\sqrt{7x+3}}{7x+8} - \frac{5}{\sqrt{7x+3}} - \sqrt{7x+3} + \frac{48}{7} = 0$$

$$4. 4\sqrt{5x+1} = 3 + 4\sqrt[4]{5x+1}$$

$$5. \sqrt{6x^2 - x + 8} - \sqrt{6x^2 - x + 35} = -3$$

$$6. \frac{42x-36}{7x-4} + 7\sqrt{\frac{7x-6}{4x-8}} + \frac{7x-4}{2x-4} = 0$$

$$7. \frac{12\sqrt[3]{x}+3}{12\sqrt[3]{x}+1} + \frac{36\sqrt[3]{x^2}-6\sqrt[3]{x}+1}{72\sqrt[3]{x^2}+54\sqrt[3]{x}+4} = \frac{6x+\sqrt[3]{x^2}}{6x+4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{25+5x} + \sqrt[3]{10-5x} = 5$$

Вариант 19.

$$1. 10\sqrt{\frac{10x+7}{4x+1}} - 3\sqrt{\frac{4x+1}{10x+7}} = 1$$

$$2. (x+1)(x+7) - 48 = -3\sqrt{x^2 + 8x - 1}$$

$$3. \frac{\sqrt{5x-5}}{5x-4} - \frac{1}{\sqrt{5x-5}} - \sqrt{5x-5} + \frac{24}{5} = 0$$

$$4. 6\sqrt{x-2} = 2 - \sqrt[4]{x-2}$$

$$5. \sqrt{12x^2 + 4x + 0} - \sqrt{12x^2 + 4x + 15} = -3$$

$$6. \frac{4x-2}{x+1} - \sqrt{\frac{6x-3}{10x+1}} - \frac{18x+18}{10x+1} = 0$$

$$7. \frac{-2\sqrt[3]{x}-9}{-2\sqrt[3]{x}-11} + \frac{\sqrt[3]{x^2} + 13\sqrt[3]{x} + 43}{2\sqrt[3]{x^2} + 15\sqrt[3]{x} + 22} = \frac{-x-5\sqrt[3]{x^2}}{-x-2\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{3+x} + \sqrt[3]{6-x} = 3$$

Вариант 20.

$$1. 8\sqrt{\frac{5x-2}{10x+1}} + 3\sqrt{\frac{10x+1}{5x-2}} = 10$$

$$2. (x-7)(x-3) - 44 = -2\sqrt{x^2 - 10x + 25}$$

$$3. \frac{\sqrt{8x-5}}{8x-3} - \frac{2}{\sqrt{8x-5}} - \sqrt{8x-5} + \frac{63}{8} = 0$$

$$4. 8\sqrt{5x-2} = 1 + 2\sqrt[4]{5x-2}$$

$$5. \sqrt{12x^2 - 13x + 12} - \sqrt{12x^2 - 13x + 84} = -6$$

$$6. \frac{12x+2}{x-2} - 2\sqrt{\frac{6x+1}{4x+5}} - \frac{4x-8}{4x+5} = 0$$

$$7. \frac{8\sqrt[3]{x}-13}{8\sqrt[3]{x}-15} + \frac{16\sqrt[3]{x^2} - 68\sqrt[3]{x} + 73}{32\sqrt[3]{x^2} - 92\sqrt[3]{x} + 60} = \frac{4x-7\sqrt[3]{x^2}}{4x-4\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{62+2x} + \sqrt[3]{66-2x} = 8$$

Вариант 21.

$$1. 6\sqrt{\frac{3x-7}{4x-1}} + \sqrt{\frac{4x-1}{3x-7}} = 5$$

$$2. (x-2)(x-4) - 57 = -4\sqrt{x^2 - 6x + 11}$$

$$3. \frac{\sqrt{9x+5}}{9x+7} - \frac{2}{\sqrt{9x+5}} - \sqrt{9x+5} + \frac{80}{9} = 0$$

$$4. 10\sqrt{-x-6} = 7 - 9\sqrt[4]{-x-6}$$

$$5. \sqrt{8x^2 - 2x + 33} - \sqrt{8x^2 - 2x + 13} = 2$$

$$6. \frac{24x-24}{7x+1} - 2\sqrt{\frac{3x-3}{4x-2}} - \frac{21x+3}{4x-2} = 0$$

$$7. \frac{6\sqrt[3]{x+7}}{6\sqrt[3]{x+5}} + \frac{9\sqrt[3]{x^2} + 9\sqrt[3]{x+3}}{18\sqrt[3]{x^2} + 51\sqrt[3]{x+30}} = \frac{3x+3\sqrt[3]{x^2}}{3x+6\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{36+8x} + \sqrt[3]{18-8x} = 6$$

Вариант 22.

$$1. 9\sqrt{\frac{2x-6}{3x-4}} - 8\sqrt{\frac{3x-4}{2x-6}} = -6$$

$$2. (x-4)(x+6) + 14 = 6\sqrt{x^2 + 2x - 15}$$

$$3. \frac{\sqrt{3x+7}}{3x+8} - \frac{1}{\sqrt{3x+7}} - \sqrt{3x+7} + \frac{8}{3} = 0$$

$$4. 6\sqrt{2x+5} = 5 - 7\sqrt[4]{2x+5}$$

$$5. \sqrt{6x^2 + 7x + 97} - \sqrt{6x^2 + 7x + 22} = 5$$

$$6. \frac{40x+40}{7x+1} + \sqrt{\frac{4x+4}{7x+4}} - \frac{14x+2}{7x+4} = 0$$

$$7. \frac{4\sqrt[3]{x+7}}{4\sqrt[3]{x+5}} + \frac{4\sqrt[3]{x^2} + 6\sqrt[3]{x+3}}{8\sqrt[3]{x^2} + 34\sqrt[3]{x+30}} = \frac{2x+3\sqrt[3]{x^2}}{2x+6\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{7+10x} + \sqrt[3]{65-10x} = 6$$

Вариант 23.

$$1. 6\sqrt{\frac{2x-7}{10x+5}} - 2\sqrt{\frac{10x+5}{2x-7}} = 1$$

$$2. (x+7)(x+9) - 39 = -\sqrt{x^2 + 16x + 54}$$

$$3. \frac{\sqrt{9x-6}}{9x+1} - \frac{7}{\sqrt{9x-6}} - \sqrt{9x-6} + \frac{80}{9} = 0$$

$$4. 6\sqrt{4x-1} = 1 + \sqrt[4]{4x-1}$$

$$5. \sqrt{4x^2 - 4x + 78} - \sqrt{4x^2 - 4x + 6} = 6$$

$$6. \frac{36x-60}{9x-1} + 7\sqrt{\frac{3x-5}{3x+5}} - \frac{27x-3}{6x+10} = 0$$

$$7. \frac{10\sqrt[3]{x}+5}{10\sqrt[3]{x}+3} + \frac{25\sqrt[3]{x^2}+5\sqrt[3]{x}+1}{50\sqrt[3]{x^2}+65\sqrt[3]{x}+15} = \frac{5x+2\sqrt[3]{x^2}}{5x+5\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{10+3x} + \sqrt[3]{-8-3x} = 2$$

Вариант 24.

$$1. 8\sqrt{\frac{9x+6}{5x+2}} - 5\sqrt{\frac{5x+2}{9x+6}} = -6$$

$$2. (x-8)(x-2) + 17 = 9\sqrt{x^2 - 10x + 15}$$

$$3. \frac{\sqrt{9x+1}}{9x+4} - \frac{3}{\sqrt{9x+1}} - \sqrt{9x+1} + \frac{80}{9} = 0$$

$$4. 4\sqrt{5x+2} = 3 + 4\sqrt[4]{5x+2}$$

$$5. \sqrt{12x^2 + 5x + 13} - \sqrt{12x^2 + 5x + 33} = -2$$

$$6. \frac{72x+9}{x-10} + 3\sqrt{\frac{8x+1}{2x+4}} - \frac{x-10}{x+2} = 0$$

$$7. \frac{10\sqrt[3]{x}-1}{10\sqrt[3]{x}-3} + \frac{25\sqrt[3]{x^2}-25\sqrt[3]{x}+7}{50\sqrt[3]{x^2}+5\sqrt[3]{x}-6} = \frac{5x-\sqrt[3]{x^2}}{5x+2\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{70+6x} + \sqrt[3]{-5-6x} = 5$$

Вариант 25.

$$1. 10\sqrt{\frac{9x-4}{3x-5}} - 9\sqrt{\frac{3x-5}{9x-4}} = 9$$

$$2. (x-5)(x+10) - 70 = -2\sqrt{x^2 + 5x - 40}$$

$$3. \frac{\sqrt{8x+1}}{8x+9} - \frac{8}{\sqrt{8x+1}} - \sqrt{8x+1} + \frac{63}{8} = 0$$

$$4. 10\sqrt{-2x-1} = 2 + \sqrt[4]{-2x-1}$$

$$5. \sqrt{8x^2 + 10x + 19} - \sqrt{8x^2 + 10x + 67} = -4$$

$$6. \frac{18x+48}{x+5} + 7\sqrt{\frac{3x+8}{3x-6}} + \frac{2x+10}{3x-6} = 0$$

$$7. \frac{10\sqrt[3]{x}-11}{10\sqrt[3]{x}-13} + \frac{25\sqrt[3]{x^2}-75\sqrt[3]{x}+57}{50\sqrt[3]{x^2}-95\sqrt[3]{x}+39} = \frac{5x-6\sqrt[3]{x^2}}{5x-3\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{21+3x} + \sqrt[3]{14-3x} = 5$$

Вариант 26.

$$1. 6\sqrt{\frac{9x-1}{9x+7}} - 6\sqrt{\frac{9x+7}{9x-1}} = -5$$

$$2. (x-5)(x-2) - 27 = 3\sqrt{x^2 - 7x + 1}$$

$$3. \frac{\sqrt{10x-3}}{10x+1} - \frac{4}{\sqrt{10x-3}} - \sqrt{10x-3} + \frac{99}{10} = 0$$

$$4. 4\sqrt{-3x+2} = 3 - 4\sqrt[4]{-3x+2}$$

$$5. \sqrt{8x^2 + 10x + 13} - \sqrt{8x^2 + 10x + 97} = -6$$

$$6. \frac{4x-12}{x-1} + 4\sqrt{\frac{3x-9}{6x-10}} - \frac{9x-9}{6x-10} = 0$$

$$7. \frac{8\sqrt[3]{x}+7}{8\sqrt[3]{x}+5} + \frac{16\sqrt[3]{x^2}+12\sqrt[3]{x}+3}{32\sqrt[3]{x^2}+68\sqrt[3]{x}+30} = \frac{4x+3\sqrt[3]{x^2}}{4x+6\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{32+7x} + \sqrt[3]{59-7x} = 7$$

Вариант 27.

$$1. 8\sqrt{\frac{8x-3}{4x-7}} + \sqrt{\frac{4x-7}{8x-3}} = 6$$

$$2. (x+6)(x-1) - 25 = -4\sqrt{x^2 + 5x + 1}$$

$$3. \frac{\sqrt{7x-1}}{7x+2} - \frac{3}{\sqrt{7x-1}} - \sqrt{7x-1} + \frac{48}{7} = 0$$

$$4. 6\sqrt{-10x-9} = 1 + \sqrt[4]{-10x-9}$$

$$5. \sqrt{10x^2 - x + 13} - \sqrt{10x^2 - x + 46} = -3$$

$$6. \frac{8x+8}{x-1} - 10\sqrt{\frac{10x+10}{3x-2}} + \frac{30x-30}{3x-2} = 0$$

$$7. \frac{10\sqrt[3]{x}-9}{10\sqrt[3]{x}-11} + \frac{25\sqrt[3]{x^2}-65\sqrt[3]{x}+43}{50\sqrt[3]{x^2}-75\sqrt[3]{x}+22} = \frac{5x-5\sqrt[3]{x^2}}{5x-2\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{31+10x} + \sqrt[3]{60-10x} = 7$$

Вариант 28.

$$1. 4\sqrt{\frac{2x+2}{6x+2}} + 3\sqrt{\frac{6x+2}{2x+2}} = 8$$

$$2. (x-8)(x-10) - 23 = 2\sqrt{x^2 - 18x + 81}$$

$$3. \frac{\sqrt{8x-10}}{8x+5} - \frac{15}{\sqrt{8x-10}} - \sqrt{8x-10} + \frac{63}{8} = 0$$

$$4. 6\sqrt{-6x-1} = 2 - \sqrt[4]{-6x-1}$$

$$5. \sqrt{4x^2 + 8x + 4} - \sqrt{4x^2 + 8x + 103} = -9$$

$$6. \frac{20x+12}{5x+4} + 8\sqrt{\frac{5x+3}{10x+7}} - \frac{25x+20}{10x+7} = 0$$

$$7. \frac{4\sqrt[3]{x}-11}{4\sqrt[3]{x}-13} + \frac{4\sqrt[3]{x^2}-30\sqrt[3]{x}+57}{8\sqrt[3]{x^2}-38\sqrt[3]{x}+39} = \frac{2x-6\sqrt[3]{x^2}}{2x-3\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{-9+4x} + \sqrt[3]{37-4x} = 4$$

Вариант 29.

$$1. 8\sqrt{\frac{2x+4}{10x+7}} - \sqrt{\frac{10x+7}{2x+4}} = -2$$

$$2. (x+8)(x+10) - 96 = -\sqrt{x^2 + 18x + 74}$$

$$3. \frac{\sqrt{7x+1}}{7x+3} - \frac{2}{\sqrt{7x+1}} - \sqrt{7x+1} + \frac{48}{7} = 0$$

$$4. 6\sqrt{-x+3} = 3 + 7\sqrt[4]{-x+3}$$

$$5. \sqrt{12x^2 + 11x + 95} - \sqrt{12x^2 + 11x + 20} = 5$$

$$6. \frac{24x-15}{4x-3} + 7\sqrt{\frac{8x-5}{2x-2}} - \frac{12x-9}{x-1} = 0$$

$$7. \frac{8\sqrt[3]{x}-7}{8\sqrt[3]{x}-9} + \frac{16\sqrt[3]{x^2}-44\sqrt[3]{x}+31}{32\sqrt[3]{x^2}-44\sqrt[3]{x}+9} = \frac{4x-4\sqrt[3]{x^2}}{4x-\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{8+9x} + \sqrt[3]{20-9x} = 4$$

Вариант 30.

$$1. 9\sqrt{\frac{4x+10}{10x-5}} - 2\sqrt{\frac{10x-5}{4x+10}} = -3$$

$$2. (x+3)(x+8) + 12 = 7\sqrt{x^2 + 11x + 26}$$

$$3. \frac{\sqrt{8x-4}}{8x+10} - \frac{14}{\sqrt{8x-4}} - \sqrt{8x-4} + \frac{63}{8} = 0$$

$$4. 6\sqrt{-3x+4} = 6 + 5\sqrt[4]{-3x+4}$$

$$5. \sqrt{4x^2 - 8x - 1} - \sqrt{4x^2 - 8x + 4} = -1$$

$$6. \frac{16x+48}{3x+4} + 10\sqrt{\frac{2x+6}{9x-4}} - \frac{21x+28}{9x-4} = 0$$

$$7. \frac{6\sqrt[3]{x}-11}{6\sqrt[3]{x}-13} + \frac{9\sqrt[3]{x^2}-45\sqrt[3]{x}+57}{18\sqrt[3]{x^2}-57\sqrt[3]{x}+39} = \frac{3x-6\sqrt[3]{x^2}}{3x-3\sqrt[3]{x^2}}$$

$$8. \sqrt[3]{15+2x} + \sqrt[3]{20-2x} = 5$$

Ответы

Вариант 1.

1. $-\frac{21}{31}; -\frac{129}{214}$

2. $-9; 14$

3. $\frac{83}{18} - \frac{1}{2}\sqrt{61}; \frac{83}{18} + \frac{1}{2}\sqrt{61}$

4. $\frac{79}{16}$

5. $\frac{1}{4}; -\frac{2}{3}$

6. $-\frac{19}{9}; -\frac{4}{3}$

7. $-\frac{1}{64}$

8. $\frac{71}{5}; \frac{8}{5}$

Вариант 2.

1. $\frac{7}{19}$

2. $-\frac{9}{2} - \frac{1}{2}\sqrt{69}; -\frac{9}{2} + \frac{1}{2}\sqrt{69}$

3. $0; 7$

4. $\frac{5}{32}$

5. $\frac{1}{3}; \frac{1}{4}$

6. $\frac{17}{7} - \frac{4}{7}\sqrt{43}; -\frac{99}{91}$

7. $\frac{8}{27}$

8. $\frac{18}{7}; -\frac{1}{7}$

Вариант 3.

1. 17

2. $\frac{1}{2} - \frac{3}{2}\sqrt{29}; \frac{1}{2} + \frac{3}{2}\sqrt{29}$

3. $\frac{29}{14} - \frac{1}{2}\sqrt{41}; \frac{29}{14} + \frac{1}{2}\sqrt{41}$

4. $-\frac{65}{16}$

5. $\frac{1}{2}; \frac{1}{3}$

6. $-\frac{44}{5}; \frac{1}{14} - \frac{9\sqrt{57}}{70}$

7. $-\frac{27}{64}$

8. $\frac{28}{3}; -\frac{7}{6}$

Вариант 4.

1. $-\frac{15}{14}; -1$

2. $\frac{3}{2} - \frac{3}{2}\sqrt{21}; \frac{3}{2} + \frac{3}{2}\sqrt{21}$

3. $\frac{29}{14} - \frac{1}{2}\sqrt{21}; \frac{29}{14} + \frac{1}{2}\sqrt{21}$

4. $\frac{49}{16}$

5. $\frac{1}{2}; -\frac{6}{5}$

6. $-\frac{9}{7} - \frac{4}{7}\sqrt{79}; \frac{31}{15} + \frac{4\sqrt{31}}{15}$

7. $-\frac{64}{27}$

8. $-6; 1$

Вариант 5.

1. $-\frac{41}{2}$

2. $3 - 3\sqrt{3}; 3 + 3\sqrt{3}; 3 - 2\sqrt{15}; 3 + 2\sqrt{15}$

3. $\frac{9}{2} - \sqrt{13}; \frac{9}{2} + \sqrt{13}$

4. $-\frac{43}{48}$

5. $\frac{1}{2}; -\frac{3}{4}$

6. $5; -\frac{1}{46} - \frac{3\sqrt{41}}{46}$

7. 27

8. $-\frac{23}{3}; 1$

Вариант 6.

1. $-\frac{35}{6}$

2. $-2 - 2\sqrt{17}; -2 + 2\sqrt{17}$

3. $\frac{2}{5}; \frac{7}{5}$

4. $-\frac{49}{16}$

5. $\frac{3}{5}; -\frac{3}{2}$

6. $\frac{1}{4} + \frac{11\sqrt{5}}{20}, \frac{23}{15}$

7. 1

8. $-12; 7$

Вариант 7.

1. $-\frac{39}{2}$

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

3. $4 - \sqrt{13}; 4 + \sqrt{13}$

4. $-\frac{82}{81}$

5. $\frac{3}{4}; \frac{1}{2}$

6. $-10 - 4\sqrt{6}; \frac{11}{4} - \frac{3}{4}\sqrt{11}$

7. 125

8. $-2; -\frac{5}{6}$

Вариант 8.

1. $\frac{3}{17}$

2. $-4 - 3\sqrt{3}; -4 + 3\sqrt{3}$

3. $\frac{5}{2} - 2\sqrt{2}; \frac{5}{2} + 2\sqrt{2}$

4. $\frac{29}{32}$

5. $\frac{1}{2}; -\frac{5}{3}$

6. $-\frac{87}{56} - \frac{3\sqrt{57}}{56}, -\frac{93}{94} - \frac{3\sqrt{21}}{94}$

7. -8

8. $-\frac{7}{2}$

Вариант 9.

1. $\frac{142}{105}$

2. $0; 11$

3. $\frac{53}{14} - \frac{1}{2}\sqrt{21}; \frac{53}{14} + \frac{1}{2}\sqrt{21}$

4. $\frac{53}{48}$

5. $\frac{3}{2}; -\frac{1}{3}$

6. $\frac{17}{13} + \frac{2}{13}\sqrt{17}; 2 + \frac{1}{5}\sqrt{65}$

7. $-\frac{27}{8}$

8. $-\frac{1}{7}; \frac{6}{7}$

Вариант 10.

1. $\frac{23}{13}, \frac{16}{11}$

2. $0; -17; -5; -12$

3. $\frac{65}{14} - \frac{3}{2}\sqrt{5}; \frac{65}{14} + \frac{3}{2}\sqrt{5}$

4. $-\frac{65}{96}$

5. $\frac{5}{2}; -\frac{2}{3}$

6. $-\frac{5}{31} + \frac{16\sqrt{7}}{31}; -\frac{15}{13}$

7. $-\frac{27}{125}$

8. $-\frac{41}{9}; -\frac{4}{9}$

Вариант 11.

1. $-\frac{37}{3}$

2. $-2 - 2\sqrt{19}; -2 + 2\sqrt{19}$

3. $\frac{3}{2} - \sqrt{3}; \frac{3}{2} + \sqrt{3}$

4. $-\frac{68}{81}$

5. $\frac{4}{3}; -\frac{1}{2}$

6. $\frac{82}{95} - \frac{62\sqrt{6}}{95}; \frac{2}{87} - \frac{62\sqrt{22}}{87}$

7. -1

8. $-\frac{32}{7}; -\frac{6}{7}$

Вариант 12.

1. $\frac{43}{7}$

2. $-2 - 8\sqrt{2}; -2 + 8\sqrt{2}; -2 - \sqrt{53}; -2 + \sqrt{53}$

3. $\frac{61}{18} - \frac{1}{2}\sqrt{65}; \frac{61}{18} + \frac{1}{2}\sqrt{65}$

4. $-\frac{94}{81}$

5. $\frac{3}{2}; \frac{1}{3}$

6. $-1 + \frac{3}{10}\sqrt{5}; -\frac{7}{10}$

7. -125

8. $-\frac{59}{2}; -\frac{3}{2}$

Вариант 13.

1. $-\frac{28}{9}$

2. $2 - \sqrt{33}; 2 + \sqrt{33}$

3. $\frac{29}{10} - \frac{1}{2}\sqrt{5}; \frac{29}{10} + \frac{1}{2}\sqrt{5}$

4. $\frac{7}{16}$

5. $\frac{2}{3}; \frac{1}{2}$

6. $\frac{51}{41}; 3$

7. $\frac{125}{8}$

8. $-\frac{47}{4}; -\frac{5}{2}$

Вариант 14.

1. $-\frac{20}{53}; -\frac{10}{17}$

2. $-3 - \sqrt{15}; -3 + \sqrt{15}; -3 - 4\sqrt{5}; -3 + 4\sqrt{5}$

3. $\frac{6}{7}; \frac{41}{7}$

4. $-\frac{45}{32}$

5. $\frac{3}{2}; \frac{1}{2}$

6. $-\frac{53}{19} - \frac{6\sqrt{30}}{19}; -2$

7. 64

8. 2

Вариант 15.

1. $\frac{13}{43}$

2. $-4 - 2\sqrt{14}; -4 + 2\sqrt{14}$

3. $\frac{24}{5} - \sqrt{22}; \frac{24}{5} + \sqrt{22}$

4. $-\frac{47}{32}$

5. $-\frac{1}{3}; -\frac{2}{3}$

6. $-\frac{1}{12} + \frac{1}{12}\sqrt{73}; \frac{19}{52} - \frac{3\sqrt{17}}{52}$

7. $\frac{27}{8}$

8. $18; -\frac{1}{2}$

Вариант 16.

1. $\frac{71}{20}; -95$

2. $-\frac{17}{2} - \frac{1}{2}\sqrt{41}; -\frac{17}{2} + \frac{1}{2}\sqrt{41}$

3. $\frac{21}{5} - 2\sqrt{2}; \frac{21}{5} + 2\sqrt{2}$

4. $-\frac{31}{32}$

5. $\frac{3}{4}; -\frac{1}{3}$

6. $\frac{23}{16} + \frac{17\sqrt{5}}{16}; \frac{43}{41} + \frac{51\sqrt{10}}{82}$

7. -64

8. $-36; -\frac{9}{2}$

Вариант 17.

1. $\frac{11}{81}$

2. $-2 - 2\sqrt{7}; -2 + 2\sqrt{7}$

3. $\frac{37}{8} - \sqrt{14}; \frac{37}{8} + \sqrt{14}$

4. $-\frac{63}{16}$

5. $\frac{1}{2}; -\frac{3}{5}$

6. $\frac{53}{66}; \frac{4}{3}$

7. $\frac{125}{27}$

8. $\frac{57}{5}; \frac{1}{5}$

Вариант 18.

1. $-\frac{23}{77}$

2. $-6; 7$

3. $\frac{33}{14} - \frac{1}{2}\sqrt{29}; \frac{33}{14} + \frac{1}{2}\sqrt{29}$

4. $\frac{13}{16}$

5. $\frac{1}{2}; -\frac{1}{3}$

6. $\frac{31}{7} - \frac{3}{7}\sqrt{71}; \frac{44}{21} - \frac{8\sqrt{11}}{21}$

7. $-\frac{1}{8}$

8. $-\frac{17}{5}; \frac{2}{5}$

Вариант 19.

1. $-\frac{83}{107}$

2. $-4 - \sqrt{42}; -4 + \sqrt{42}$

3. $\frac{33}{10} - \frac{1}{2}\sqrt{21}; \frac{33}{10} + \frac{1}{2}\sqrt{21}$

4. $\frac{33}{16}$

5. $\frac{1}{6}; -\frac{1}{2}$

6. $2 + \frac{3}{4}\sqrt{10}; \frac{43}{53} - \frac{6\sqrt{97}}{53}$

7. -27

8. $5; -2$

Вариант 20.

1. $\frac{9}{10}; -\frac{41}{10}$

2. $11; -1$

3. $\frac{35}{8} - \sqrt{14}; \frac{35}{8} + \sqrt{14}$

4. $\frac{33}{80}$

5. $\frac{3}{4}; \frac{1}{3}$

6. $-\frac{5}{4} - \frac{13\sqrt{5}}{20}; -\frac{19}{23} + \frac{13\sqrt{2}}{23}$

7. $\frac{125}{64}$

8. 1

Вариант 21.

1. $\frac{62}{23}; \frac{27}{8}$

2. $3 - \sqrt{34}; 3 + \sqrt{34}$

3. $\frac{67}{18} - \frac{1}{2}\sqrt{73}; \frac{67}{18} + \frac{1}{2}\sqrt{73}$

4. $-\frac{97}{16}$

5. $\frac{3}{4}; -\frac{1}{2}$

6. $-43 + 12\sqrt{13}; -\frac{69}{83} - \frac{32\sqrt{7}}{83}$

7. $-\frac{125}{27}$

8. $-\frac{9}{8}$

Вариант 22.

1. $\frac{19}{3}$

2. $-1 - \sqrt{41}; -1 + \sqrt{41}; -1 - \sqrt{17}; -1 + \sqrt{17}$

3. $-\frac{7}{6} - \frac{1}{2}\sqrt{5}; -\frac{7}{6} + \frac{1}{2}\sqrt{5}$

4. $-\frac{79}{32}$

5. $\frac{1}{3}; -\frac{3}{2}$

6. $-\frac{9}{7} + \frac{4}{7}\sqrt{2}; -\frac{11}{7}$

7. $-\frac{125}{8}$

8. $\frac{57}{10}; \frac{1}{10}$

Вариант 23.

1. $-\frac{83}{22}$

2. $-8 - \sqrt{35}; -8 + \sqrt{35}$

3. $\frac{79}{18} - \frac{1}{2}\sqrt{53}; \frac{79}{18} + \frac{1}{2}\sqrt{53}$

4. $\frac{17}{64}$

5. $\frac{3}{2}; -\frac{1}{2}$

6. $\frac{17}{9}; -\frac{53}{27}$

7. $-\frac{64}{125}$

8. -3

Вариант 24.

1. $-\frac{22}{31}$

2. $5 - \sqrt{46}; 5 + \sqrt{46}; 5 - \sqrt{19}; 5 + \sqrt{19}$

3. $\frac{73}{18} - \frac{1}{2}\sqrt{69}; \frac{73}{18} + \frac{1}{2}\sqrt{69}$

4. $\frac{49}{80}$

5. $\frac{1}{3}; -\frac{3}{4}$

6. $\frac{26}{35}; -\frac{32}{13}$

7. $-\frac{1}{125}$

8. $-\frac{23}{2}; -1$

Вариант 25.

1. $-\frac{29}{9}$

2. 8; -13

3. $\frac{23}{8} - 2\sqrt{2}; \frac{23}{8} + 2\sqrt{2}$

4. $-\frac{17}{32}$

5. $-\frac{1}{2}; -\frac{3}{4}$

6. $-\frac{1}{5} - \frac{2}{5}\sqrt{39}; -\frac{1}{11} - \frac{3}{11}\sqrt{93}$

7. $\frac{64}{125}$

8. $-\frac{13}{3}; 2$

Вариант 26.

1. $\frac{37}{45}$

2. $\frac{7}{2} - \frac{3}{2}\sqrt{21}; \frac{7}{2} + \frac{3}{2}\sqrt{21}$

3. $\frac{49}{10} - \sqrt{21}; \frac{49}{10} + \sqrt{21}$

4. $\frac{31}{48}$

5. $\frac{1}{4}; -\frac{3}{2}$

6. $\frac{53}{21} + \frac{4\sqrt{22}}{21}; -\frac{29}{3} + \frac{4}{3}\sqrt{70}$

7. $-\frac{125}{64}$

8. $\frac{32}{7}; -\frac{5}{7}$

Вариант 27.

1. $\frac{41}{124}; \frac{5}{28}$

2. $-\frac{5}{2} - \frac{1}{2}\sqrt{85}; -\frac{5}{2} + \frac{1}{2}\sqrt{85}$

3. $\frac{45}{14} - \frac{1}{2}\sqrt{37}; \frac{45}{14} + \frac{1}{2}\sqrt{37}$

4. $-\frac{29}{32}$

5. $\frac{3}{5}; -\frac{1}{2}$

6. $-6 - 3\sqrt{5}; \frac{7}{3} + \frac{4\sqrt{70}}{21}$

7. $\frac{27}{125}$

8. $\frac{33}{10}; -\frac{2}{5}$

Вариант 28.

1. $-\frac{5}{23}; -3$

2. 3; 15

3. $\frac{19}{8}; \frac{35}{8}$

4. $-\frac{17}{96}$

5. $-\frac{1}{2}; -\frac{3}{2}$

6. $-\frac{74}{85} + \frac{2\sqrt{26}}{85}, -\frac{22}{35} + \frac{2\sqrt{2}}{35}$

7. 8

8. 9; $\frac{5}{2}$

Вариант 29.

1. $-\frac{57}{22}$

2. $-9 - 2\sqrt{22}; -9 + 2\sqrt{22}$

3. $\frac{43}{14} - \frac{1}{2}\sqrt{41}; \frac{43}{14} + \frac{1}{2}\sqrt{41}$

4. $-\frac{33}{16}$

5. $\frac{1}{3}; -\frac{5}{4}$

6. $\frac{3}{5}; \frac{9}{8}$

7. $\frac{1}{8}$

8. $\frac{19}{9}; -\frac{7}{9}$

Вариант 30.

1. $-\frac{95}{26}$

2. $-\frac{11}{2} - \frac{3}{2}\sqrt{13}; -\frac{11}{2} + \frac{3}{2}\sqrt{13}; -\frac{11}{2} - \frac{1}{2}\sqrt{33}; -\frac{11}{2} + \frac{1}{2}\sqrt{33}$

3. $\frac{11}{4} - \sqrt{2}; \frac{11}{4} + \sqrt{2}$

4. $-\frac{17}{48}$

5. $\frac{5}{2}; -\frac{1}{2}$

6. $\frac{4}{7}; -\frac{28}{9}$

7. $\frac{64}{27}$

8. $6; -\frac{7}{2}$