

$$(x^2 + 2x + 2)/(x + 1) + (x^2 + 8x + 20)/(x + 4) = (x^2 + 4x + 6)/(x + 2) + (x^2 + 6x + 12)/(x + 3)$$

$$x+1+1/(x+1)+x+4+4/(x+4)=x+2+2/(x+2)+x+3+3/(x+3)$$

$$x+1+1/(x+1)+x+4+4/(x+4)-x-2-2/(x+2)-x-3-3/(x+3)=0$$

$$1/(x+1)+4/(x+4)-2/(x+2)-3/(x+3)=0$$

$$(1/(x+1)-3/(x+3))+(4/(x+4)-2/(x+2))=0$$

$$(x+3-3x-3)/(x+1)(x+3)+(2x)/(x+4)(x+2)=0$$

$$(-2x)/(x+1)(x+3)+2x/(x+4)(x+2)=0$$

$$2x(-1/(x+1)(x+3)+1/(x+4)(x+2))=0$$

$$2x=0$$

$$x=0$$

$$-1/(x+1)(x+3)+1/(x+4)(x+2)+0$$

$$(-1(x+2)(x+4)+(x+1)(x+3))/(x+1)(x+2)(x+3)(x+4)=0$$

$$-x^2-6x-8+x^2+4x+3=0$$

$$-2x-5$$

$$2x+5=0$$

$$x=-5/2$$

$$x \neq -1$$

$$x \neq -2$$

$$x \neq -3$$

$$x \neq -4$$

Ответ: 0; -5/2

$$x^2+2x+2 \mid x+1$$

$$x^2+x \mid x+1$$

$$x+2$$

$$x+1$$

1

$$x^2+8x+20 \mid x+4$$

$$x^2+4x \mid x+4$$

$$4x+20$$

$$4x+16$$

4

$$x^2+4x+6 \mid x+2$$

$$x^2+2x \mid x+2$$

$$2x+6$$

$$2x+4$$

2

$$x^2+6x+12 \mid x+3$$

$$x^2+3x \mid x+3$$

$$3x+12$$

$$3x+9$$

3

$$x^2 + 2x + 2 = (x+1)(x+1) + 1$$

$$((x+1)(x+1) + 1) / (x + 1) = x+1 + 1/(x + 1)$$

$$x^2+8x+20=(x+4)(x+4)+4$$

$$((x+4)(x+4)+4)/(x+4)=x+4+4/(x+4)$$

$$x^2+4x+6=(x+2)(x+2)+2$$

$$((x+2)(x+2)+2)/(x+2)=x+2+2/(x+2)$$

$$x^2+6x+12=(x+3)(x+3)+3$$

$$((x+3)(x+3)+3)/(x+3)=x+3+3/(x+3)$$

Смешанное число



$$x=0 \quad x=-10/4$$

$$\frac{a}{b} + \frac{c}{d} = a \left( \frac{1}{b} + \frac{1}{d} \right)$$