Тренажеры к главе 3

1. Решите уравнение.

1	$3x-8=7$	$5x-12=8$
2	$29-4x=6(x+3)-5x$	$3(4x-8)=10x-6$
3	$7(x+3)-2x=21-x$	$9x-5(x+2)=18-2x$
4	$5(x-3)-3x-6=2x-25$	$2(x+7)-19=2x-5$
5	$32x-(8-13x)+(9-2x)=-45$	$49x+(11-8x)-(5x-6)=32$
6	$7(2x-5)=8-2(3x+5)$	$21(x+4)=13-(11-x)$
7	$\frac{x+2}{2}-\frac{x+3}{3}=-1$	$\frac{x+3}{5}+2\frac{1}{5}=\frac{1-x}{2}$
8	$\frac{4x+7}{5}+\frac{3x-2}{2}=\frac{5x+62}{2}$	$\frac{9x-5}{2}-\frac{3+5x}{3}=\frac{8x+6}{4}$
9	$5(3x-1)-2x=4(3x-1)+x-1$	$5(2x-3)=2(5x-7)+4$
10	$3(7x+5)=7(3x-2)+10$	$4(4x+6)-30=3(5x-2)+x$

1	$4x-5=11$	$6x-13=5$
2	$23-3(x-3)=4x-3$	$x-32=-7(x+8)$
3	$-4(-x+7)=x+5$	$24-16x=-(12x+24)$
4	$10x-5(4x+3)=3x-2(7x-2)$	$7(2x-1)-3(x+4)=6(11-x)$
5	$23x+(11x+8)-(9x+5)=7$	$29x-(11x-5)+(2x-1)=12$
6	$8(3x-2)-7x=5(12-3x)+13x$	$\frac{x-2}{3}+\frac{x}{2}=6$
7	$\frac{y+5}{4}+\frac{y}{5}=3{,}5$	$\frac{8x+7}{6}-\frac{5x-2}{2}=\frac{9+2x}{4}$
8	$\frac{4x-3}{2}-\frac{5-2x}{3}=\frac{3x+11}{3}$	$\frac{9x-5}{2}-\frac{8x-2}{4}-2=\frac{3x+5}{3}$
9	$4(3x-1)+x-1=5(3x-1)-2x$	$2(5x-7)+4=5(2x-3)$
10	$7(3x-2)+10=3(7x+5)$	$3(5x-2)+x=4(4x+6)-30$

2. Решите неравенство.

1	$7x-3>11$	$2x-1>x+1$
2	$2(x+3)<3-x$	$2x-4{,}8\le 4x+1{,}2$
3	$4(x+3)\le 3x-5$	$3(x-2)>x-12$
4	$5(x+3)-3(x-4)<7$	$3(x-6)-2(x+8)<7$
5	$6(3-2x)+3(4x-2)\ge 0$	$1-2(6-2x)<-4(x-6)-3$
6	$\frac{x+3}{4}-\frac{x}{2}\ge 3$	$\frac{x+1}{3}-4x<-7$
7	$\frac{x-1}{5}-2x<2$	$\frac{3x-2}{4}+\frac{4x+1}{3}\ge 0$
8	$\frac{2x-1}{3}-\frac{4x+2}{5}\le 0$	$\frac{6x-4}{4}\ge\frac{5-2x}{2}$
9	$(x-1)(2x-2)\le(2x-1)(x+2)$	$(x-3)(2x-1)\le(2x+1)(x+2)$
10	$(x-3)^2>x(x-6)+6$	$3x^2-2x-3x(x-6)\ge -2$

1	$4x+7<11$	$2x-1>2x+3$
2	$3x+1{,}3\geq 5x-0{,}1$	$2x\geq 2x-3$
3	$3(x-2)>x-12$	$4(1-x)-3(x+2)<5$
4	$5x+7\geq 2(x-6)$	$15x+5\leq 4(3x-2)-3(2x-1)$
5	$6(3-x)-3(x+2)\geq 5$	$\frac{x+1}{3}-4x<-7$
6	$\frac{2-3x}{4}\leq\frac{6-5x}{8}+\frac{1}{5}$	$\frac{1-2x}{3}\leq\frac{4-3x}{6}+\frac{3}{4}$
7	$\frac{x-1}{2}-\frac{x-2}{3}\geq\frac{x-3}{4}$	$\frac{x-2}{5}-\frac{3x+2}{6}\leq\frac{2}{3}-x$
8	$(x-1)(2x-2)\leq(2x-1)(x+2)$	$\frac{x+1}{4}-\frac{4x+1}{5}\leq\frac{7-3x}{10}$
9	$(2x-1)(x+2)>2x^2$	$(x-3)(x+2)-(x-3)^2\geq 15x-10$
10	$(x+5)(x-1)-(x-1)^2>24x-30$	$(3x-2)^2+(5x+1)^2-2>34\cdot(x-3)^2$

Тренажеры к главе 4

Решите систему уравнений.

1	$\begin{cases} y = 3x - 1, \\ 2x + 3y = 8 \end{cases}$	$\begin{cases} y = 3 - x, \\ x + 2y = 3 \end{cases}$
2	$\begin{cases} x = 4y, \\ x + 5y = 99 \end{cases}$	$\begin{cases} x = 2y - 3, \\ 3x + 2y = 7 \end{cases}$
3	$\begin{cases} y = 4 + 2x, \\ 2x + y = 7 \end{cases}$	$\begin{cases} 3x + 5y = 21, \\ 2x - y = 1 \end{cases}$
4	$\begin{cases} x + y = 5, \\ x - y = 7 \end{cases}$	$\begin{cases} 2x + y = 11, \\ 3x - y = 9 \end{cases}$
5	$\begin{cases} 2x + 11y = 15, \\ 10x - 11y = 9 \end{cases}$	$\begin{cases} 4x - 7y = 30, \\ 4x - 5y = 90 \end{cases}$
6	$\begin{cases} 5x - 2y = 6, \\ 7x + 2y = 6 \end{cases}$	$\begin{cases} 4x + 5y = 8, \\ x - 3y = -15 \end{cases}$
7	$\begin{cases} x - 3y = 5, \\ 3x + 2y = 4 \end{cases}$	$\begin{cases} 3(2x + 5y) + y = 12, \\ 2(x - 7y) + 10y = -24 \end{cases}$

8	$\begin{cases}3(2x-7y)+5y=62,\\2(x+3y)-2y=2\end{cases}$	$\begin{cases}\frac{2x}{5}-\frac{5y}{2}=3,\\2x-7y=4\end{cases}$
9	$\begin{cases}x-y=\frac{1}{3},\\\frac{x}{3}=\frac{y}{3}+\frac{1}{9}\end{cases}$	$\begin{cases}\frac{3x-7}{4}-\frac{2y-3}{5}=1,\\\frac{2x-y}{2}-1=y-2\end{cases}$
10	$\begin{cases}\frac{x-y}{3}-\frac{x+y}{2}=-8,\\7x+y=-4\end{cases}$	$\begin{cases}\frac{2x+3y}{4}+\frac{3x-2y}{5}=-\frac{1}{20},\\\frac{3x+4y}{2}-\frac{5x-y}{3}=\frac{43}{6}\end{cases}$

1	$\begin{cases}y=x-1,\\5x+2y=16\end{cases}$	$\begin{cases}y=1-7x,\\4x-y=4\end{cases}$
2	$\begin{cases}x=-5y,\\x-4y=-18\end{cases}$	$\begin{cases}x=y+2,\\3x-2y=9\end{cases}$
3	$\begin{cases}3x-y=4,\\3x+y=8\end{cases}$	$\begin{cases}2x+y=11,\\3x-y=9\end{cases}$
4	$\begin{cases}-5x+7y=6,\\2x+7y=76\end{cases}$	$\begin{cases}x-6y=17,\\5x+6y=13\end{cases}$
5	$\begin{cases}3x+8y=13,\\5x-18y=5\end{cases}$	$\begin{cases}-2x+4y=-11,\\4x+4y=1\end{cases}$

6	$\begin{cases} 5x-3y=25, \\ 4x+3y=20 \end{cases}$	$\begin{cases} 4x-5y=-2, \\ 3x+2y=-13 \end{cases}$
7	$\begin{cases} 3(x+y)=6, \\ 6-5(x-y)=8x-2y \end{cases}$	$\begin{cases} -2(2x+3)+2{,}5=3(y-2x)-9, \\ 4{,}5-4(1-x)=2y-(5-x) \end{cases}$
8	$\begin{cases} \dfrac{2y}{3}-\dfrac{x+y}{2}=-\dfrac{5}{2}, \\ \dfrac{3x}{2}+2y=0 \end{cases}$	$\begin{cases} \dfrac{2-x}{3}-\dfrac{y+6}{6}=0, \\ x+2y=-1 \end{cases}$
9	$\begin{cases} \dfrac{2x-y}{6}+\dfrac{2x+y}{9}=3, \\ \dfrac{x+y}{3}-\dfrac{x-y}{4}=4 \end{cases}$	$\begin{cases} \dfrac{5x+9y}{3}=\dfrac{2x+3y}{2}, \\ \dfrac{x-3y}{2}=\dfrac{2x-3y}{3} \end{cases}$
10	$\begin{cases} \dfrac{2x+3y}{4}+\dfrac{3x-2y}{5}=-\dfrac{23}{20}, \\ \dfrac{3x+4y}{2}-\dfrac{5x-y}{3}=\dfrac{22}{3} \end{cases}$	$\begin{cases} \dfrac{x+3-5y}{2}=\dfrac{3x-4y+3}{3}, \\ \dfrac{6+3x-y}{3}=\dfrac{12x-y}{4} \end{cases}$