Resuelve las siguientes ecuaciones:

1) $3x-16=\frac{5}{3}x$

2) $\frac{2x-5}{3}=\frac{x}{4}$

3) $\frac{2x-1}{3}=x-\frac{1}{2}$

4) $x+5=\frac{x+3}{3}$

5) $\frac{3x}{5}-\frac{x}{3}=\frac{x}{4}+1$

6) $\frac{x}{4}+\frac{5x}{6}+x=75$

7) $\frac{3x}{2}-\frac{5x}{3}=7-\frac{3x}{4}$

8) $3x-\frac{x+2}{2}=4+\frac{5x}{3}$

9) $\frac{x-2}{4}-\frac{x+4}{3}=-\frac{5}{6}$

10) $\frac{x-3}{5}-1=\frac{x-5}{4}$

11) $\frac{x-2}{3}-\frac{x+1}{4}=4$

12) $1-\frac{2x-5}{3}=\frac{x+3}{2}$

13) $\frac{x+4}{5}-\frac{x+3}{4}=1-\frac{x+1}{2}$

14) $\frac{2x-5}{5}-\frac{3x+1}{4}=\frac{7}{10}-x$

15) $\frac{x-4}{5}-\frac{8x-27}{15}=1-\frac{x}{3}$

16) $\frac{2x-1}{3}-\frac{5x+2}{12}=\frac{x+5}{4}$

17) $2(x-1)-\frac{2x-6}{5}=\frac{2}{3}$

18) $\frac{x-3}{2}-\frac{2(x-4)}{3}=\frac{3}{4}$

19) $\frac{7-3(x-4)}{2}=\frac{x+1}{3}$

20) $\left(\frac{1}{3}-x\right)\left(\frac{x}{2}-6\right)=1-\frac{x(x+1)}{2}$

Soluciones

1) $3x-16=\frac{5}{3}x$	$9x-48=5x \Rightarrow 9x-5x=48 \Rightarrow 4x=48 \Rightarrow x=48:4=12 \Rightarrow \boxed{x=12}$
2) $\frac{2x-5}{3}=\frac{x}{4}$	$8x-20=3x \Rightarrow 8x-3x=20 \Rightarrow 5x=20 \Rightarrow x=20:5=4 \Rightarrow \boxed{x=4}$
3) $\frac{2x-1}{3}=x-\frac{1}{2}$	$4x-2=6x-3 \Rightarrow 3-2=6x-4x \Rightarrow 1=2x \Rightarrow \boxed{x=\frac{1}{2}}$
4) $x+5=\frac{x+3}{3}$	$3x+15=x+3 \Rightarrow 3x-x=3-15 \Rightarrow 2x=-12 \Rightarrow \boxed{x=-6}$
5) $\frac{3x}{5}-\frac{x}{3}=\frac{x}{4}+1$	$36x-20x=15x+60 \Rightarrow 36x-20x-15x=60 \Rightarrow \boxed{x=60}$
6) $\frac{x}{4}+\frac{5x}{6}+x=75$	$3x+10x+12x=900 \Rightarrow 25x=900 \Rightarrow x=900:25 \Rightarrow \boxed{x=36}$
7) $\frac{3x}{2}-\frac{5x}{3}=7-\frac{3x}{4}$	$18x-20x=84-9x \Rightarrow 18x-20x+9x=84 \Rightarrow 7x=84 \Rightarrow \boxed{x=7}$
8) $3x-\frac{x+2}{2}=4+\frac{5x}{3}$	$18x-3x-6=24+10x \Rightarrow 15x-10x=24+6 \Rightarrow 5x=30 \Rightarrow \boxed{x=6}$
9) $\frac{x-2}{4}-\frac{x+4}{3}=-\frac{5}{6}$	$3x-6-4x-16=-10 \Rightarrow -x=-10+6+16 \Rightarrow -x=12 \Rightarrow \boxed{x=2}$
10) $\frac{x-3}{5}-1=\frac{x-5}{4}$	$4x-12-20=5x-25 \Rightarrow 25-12-20=5x-4x \Rightarrow \boxed{x=-7}$
11) $\frac{x-2}{3}-\frac{x+1}{4}=4$	$4x-8-3x-3=48 \Rightarrow x=48+11 \Rightarrow \boxed{x=59}$
12) $1-\frac{2x-5}{3}=\frac{x+3}{2}$	$6-4x+10=3x+9 \Rightarrow 6+10-9=3x+4x \Rightarrow 7=7x \Rightarrow \boxed{x=1}$
13) $\frac{x+4}{5}-\frac{x+3}{4}=1-\frac{x+1}{2}$	$4x+16-5x-15=20-10x-10 \Rightarrow -x+1=10-10x \Rightarrow 9x=9 \Rightarrow \boxed{x=1}$
14) $\frac{2x-5}{5}-\frac{3x+1}{4}=\frac{7}{10}-x$	$8x-20-15x-5=14-20x \Rightarrow -7x+20x=14+25 \Rightarrow 13x=39 \Rightarrow \boxed{x=3}$
15) $\frac{x-4}{5}-\frac{8x-27}{15}=1-\frac{x}{3}$	$3x-12-8x+27=15-5x \Rightarrow 15=15 \Rightarrow \boxed{\text{Infinitas soluciones}}$
16) $\frac{2x-1}{3}-\frac{5x+2}{12}=\frac{x+5}{4}$	$8x-4-5x-2=3x+15 \Rightarrow -6=15 \Rightarrow \boxed{\text{Incompatible}}$
17) $2(x-1)-\frac{2x-6}{5}=\frac{2}{3}$	$30x-30-6x+18=10 \Rightarrow 24x=10+12 \Rightarrow 24x=22 \Rightarrow \boxed{x=\frac{11}{12}}$
18) $\frac{x-3}{2}-\frac{2(x-4)}{3}=\frac{3}{4}$	$6x-18-8x+32=9 \Rightarrow -2x=-5 \Rightarrow \boxed{x=\frac{5}{2}}$
19) $\frac{7-3(x-4)}{2}=\frac{x+1}{3}$	$21-9x+36=2x+2 \Rightarrow 57-2=2x+9x \Rightarrow 55=11x \Rightarrow \boxed{x=5}$
20) $\left(\frac{1}{3}-x\right)\left(\frac{x}{2}-6\right)=1-\frac{x(x+1)}{2}$	$\frac{x}{6}-2-\frac{x^2}{2}+6x=1-\frac{x^2+x}{2} \Rightarrow x-12+36x=6-3x \Rightarrow 40x=18 \Rightarrow \boxed{x=\frac{9}{20}}$
21) $\frac{3(x-2)}{x-5}=\frac{6x+1}{2x}$	$6x^2-12x=6x^2-30x+x-5 \Rightarrow -12x+29x=-5 \Rightarrow 17x=-5 \Rightarrow \boxed{x=\frac{-5}{17}}$