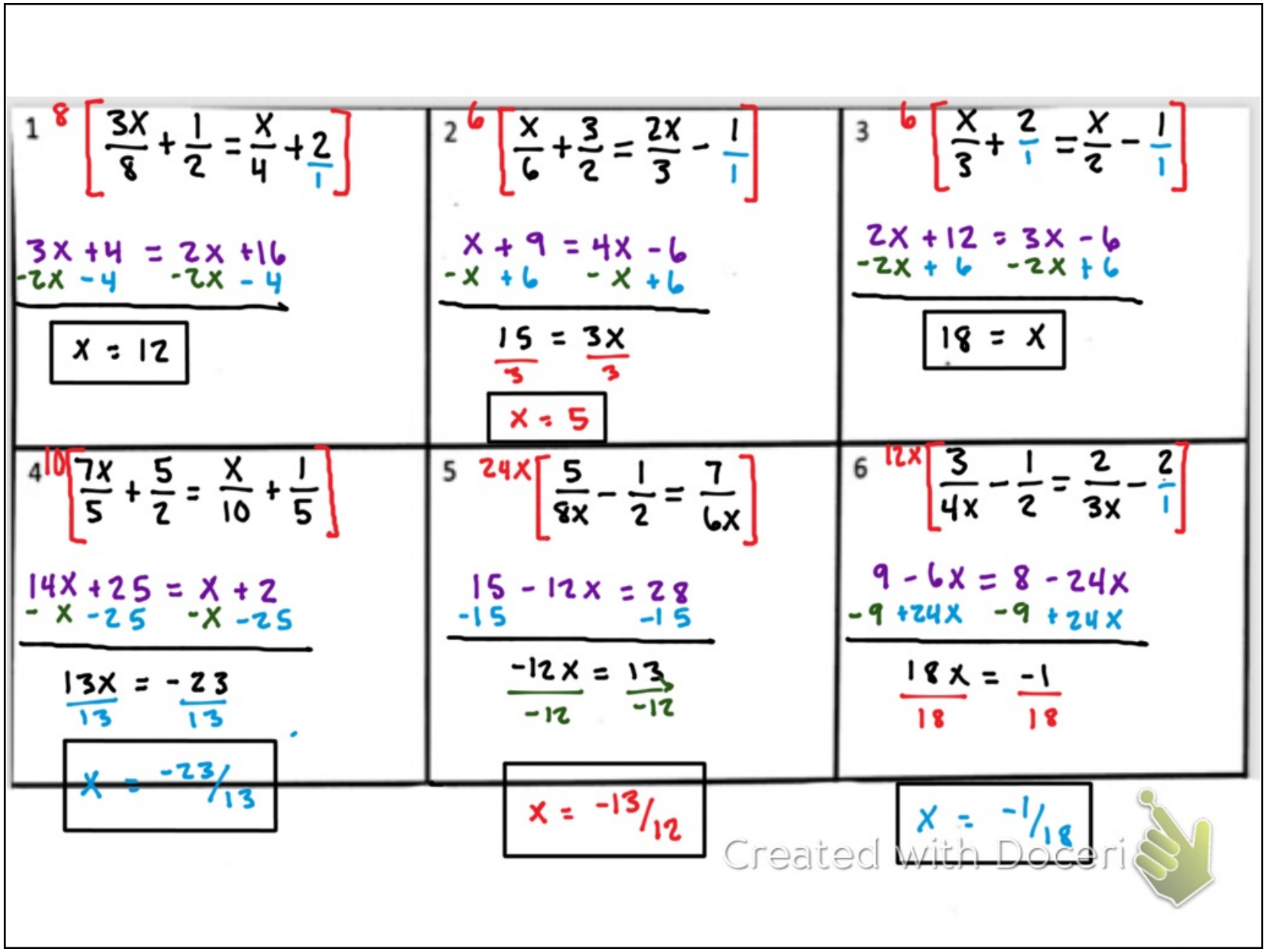
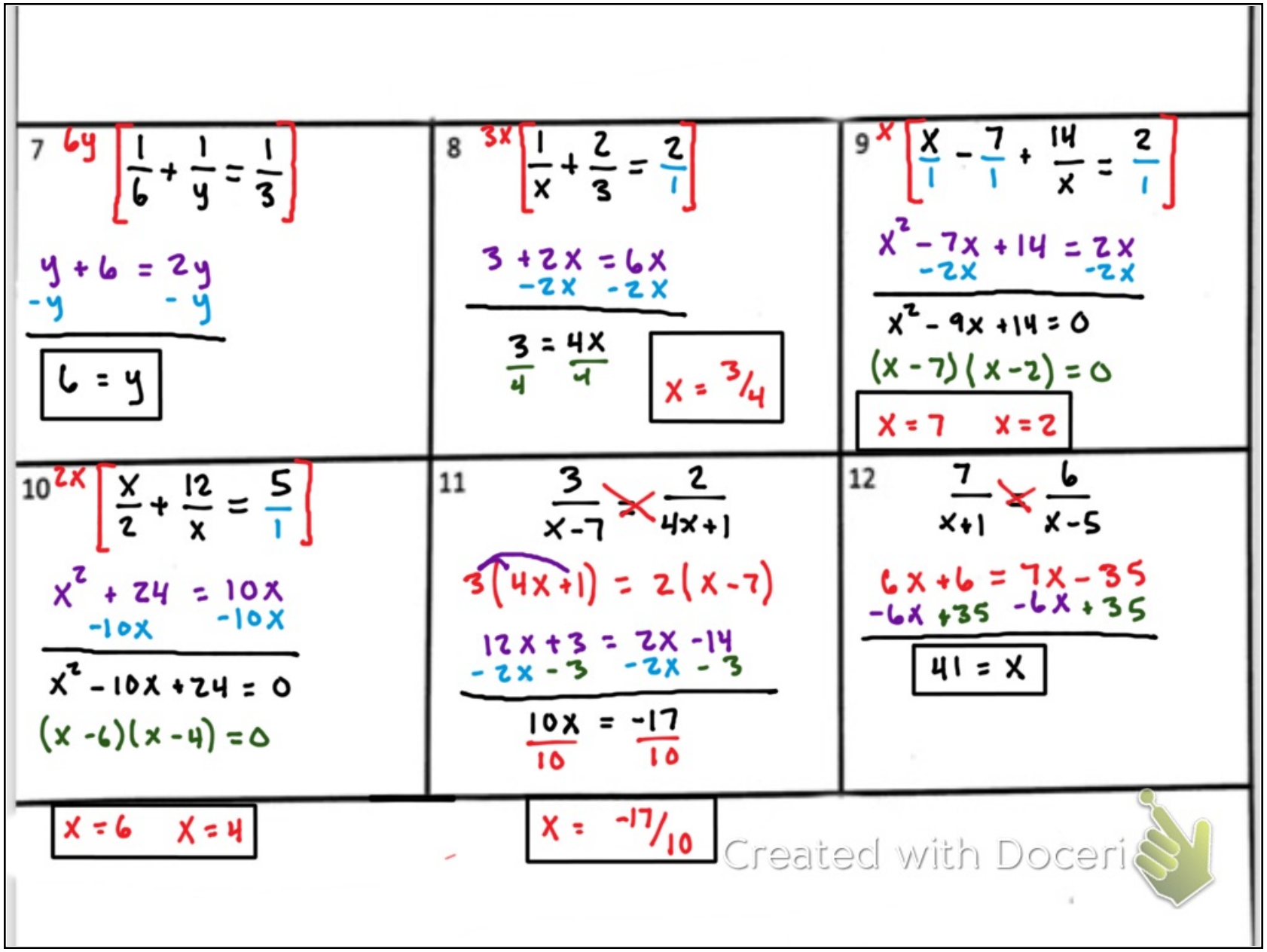
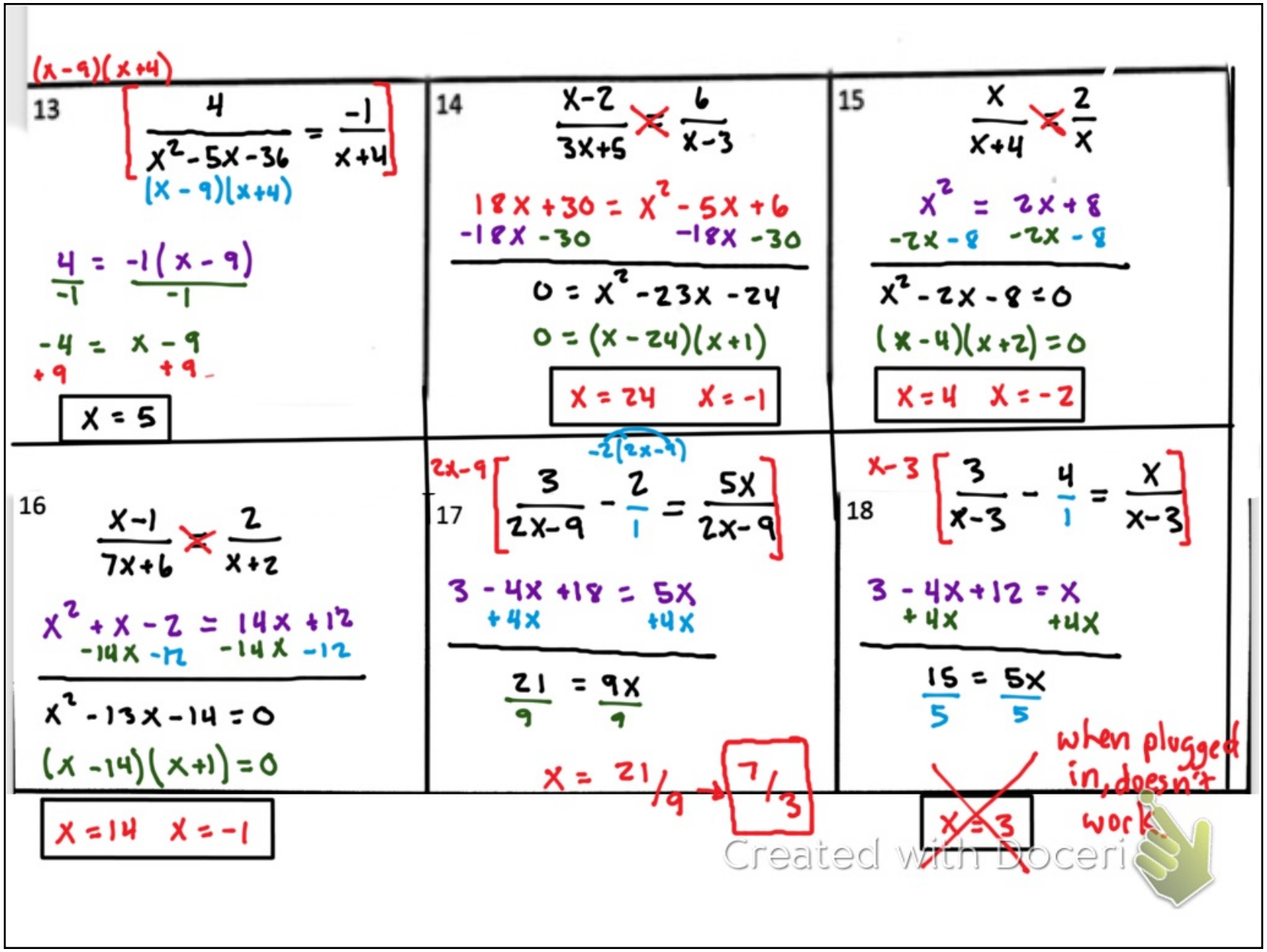
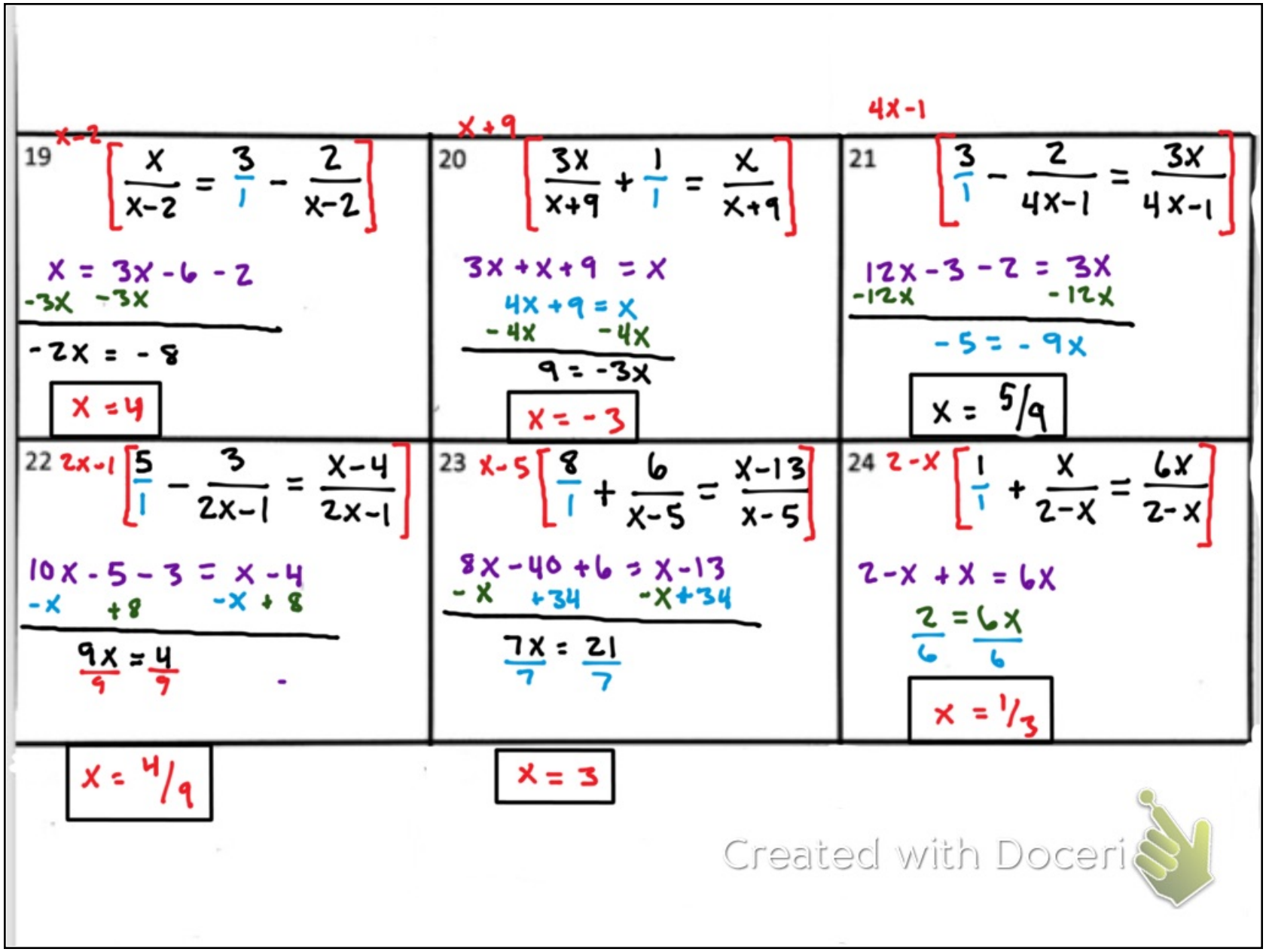
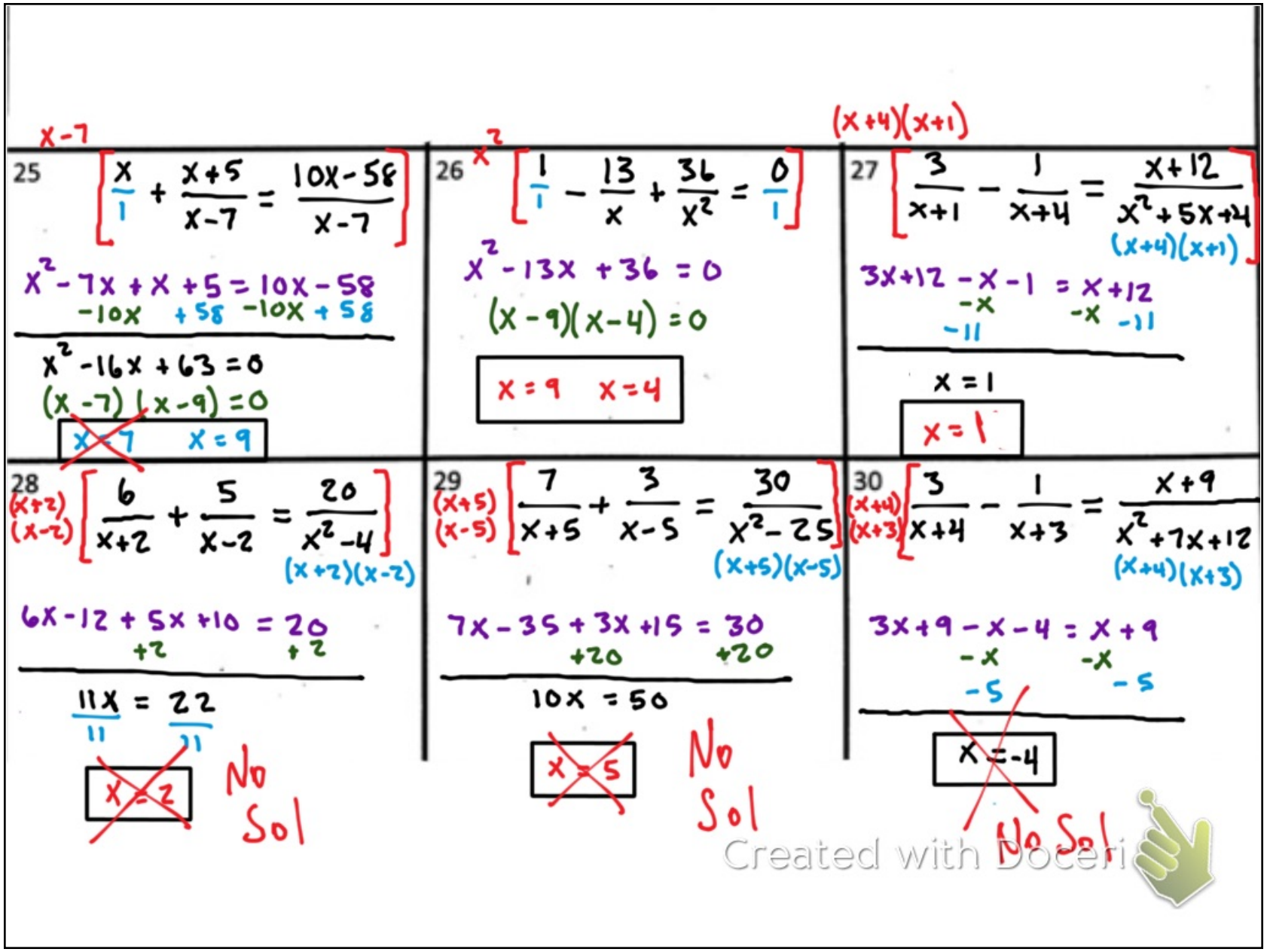
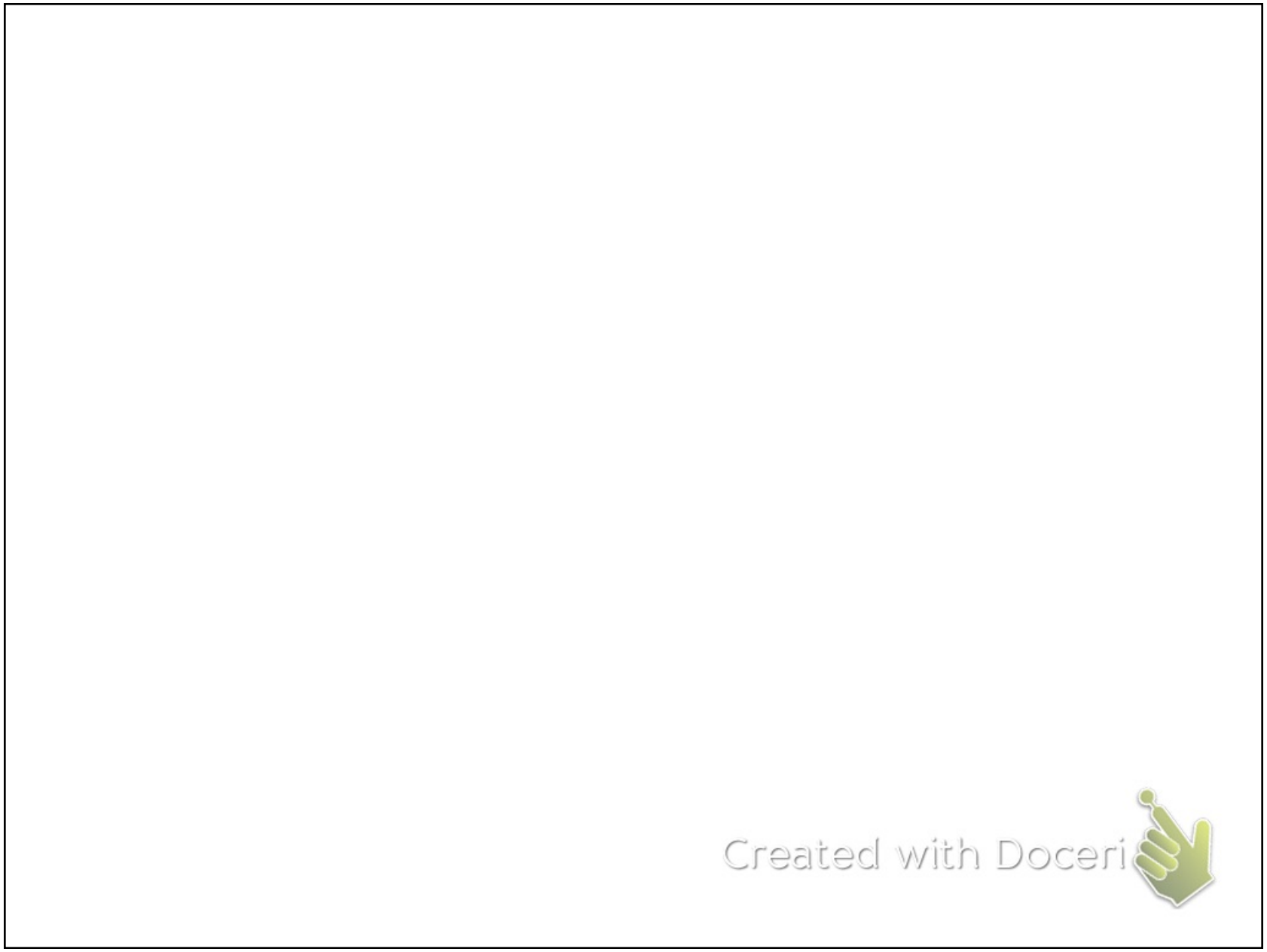

1 8 $\left[\frac{3x}{8}+\frac{1}{2}=\frac{x}{4}+\frac{2}{1}\right]$
3x + 4 = 2x + 16
-2x - 4 -2x - 4
x = 12
2 6 $\left[\frac{x}{6}+\frac{3}{2}=\frac{2x}{3}-\frac{1}{1}\right]$
x + 9 = 4x - 6
-x + 6 -x + 6
15 = 3x
3 3
x = 5
3 6 $\left[\frac{x}{3}+\frac{2}{1}=\frac{x}{2}-\frac{1}{1}\right]$
2x + 12 = 3x - 6
-2x + 6 -2x + 6
18 = x
4 10 $\left[\frac{7x}{5}+\frac{5}{2}=\frac{x}{10}+\frac{1}{5}\right]$
14x + 25 = x + 2
- x - 25 -x - 25
13x = -23
13 13
x = -23/13
5 24x $\left[\frac{5}{8x}-\frac{1}{2}=\frac{7}{6x}\right]$
15 - 12x = 28
-15 -15
-12x = 13
-12 -12
x = -13/12
6 12x $\left[\frac{3}{4x}-\frac{1}{2}=\frac{2}{3x}-\frac{2}{1}\right]$
9 - 6x = 8 - 24x
-9 +24x -9 +24x
18x = -1
18 18
x = -1/18
Created with Doceri


7 6y
1/6 + 1/y = 1/3
y + 6 = 2y
-y -y
6 = y
8 3x
1/x + 2/3 = 2/1
3 + 2x = 6x
-2x -2x
3 = 4x
4 4
x = 3/4
9 x
x/1 - 7/1 + 14/x = 2/1
x² - 7x + 14 = 2x
-2x -2x
x² - 9x + 14 = 0
(x - 7)(x - 2) = 0
x = 7 x = 2
10 2x
x/2 + 12/x = 5/1
x² + 24 = 10x
-10x -10x
x² - 10x + 24 = 0
(x - 6)(x - 4) = 0
x = 6 x = 4
11
3/(x-7) = 2/(4x+1)
3(4x + 1) = 2(x - 7)
12x + 3 = 2x - 14
-2x - 3 -2x - 3
10x = -17
10 10
x = -17/10
12
7/(x+1) = 6/(x-5)
6x + 6 = 7x - 35
-6x +35 -6x +35
41 = x
Created with Doceri


(x-9)(x+4)
13
4/(x²-5x-36) = -1/(x+4)
(x-9)(x+4)
4/-1 = -1(x-9)/-1
-4 = x-9
+9 +9
x = 5
14
(x-2)/(3x+5) = 6/(x-3)
18x+30 = x²-5x+6
-18x-30 -18x-30
0 = x²-23x-24
0 = (x-24)(x+1)
x = 24 x = -1
15
x/(x+4) = 2/x
x² = 2x+8
-2x-8 -2x-8
x²-2x-8 = 0
(x-4)(x+2) = 0
x = 4 x = -2
16
(x-1)/(7x+6) = 2/(x+2)
x²+x-2 = 14x+12
-14x-12 -14x-12
x²-13x-14 = 0
(x-14)(x+1) = 0
x = 14 x = -1
17
2x-9
-2(2x-9)
3/(2x-9) - 2/1 = 5x/(2x-9)
3-4x+18 = 5x
+4x +4x
21/9 = 9x/9
x = 21/9 → 7/3
18
x-3
3/(x-3) - 4/1 = x/(x-3)
3-4x+12 = x
+4x +4x
15/5 = 5x/5
x = 3
when plugged in, doesn't work
Created with Doceri


19
x-2
$\frac{x}{x-2} = \frac{3}{1} - \frac{2}{x-2}$
x = 3x - 6 - 2
-3x -3x
-2x = -8
x = 4
20
x+9
$\frac{3x}{x+9} + \frac{1}{1} = \frac{x}{x+9}$
3x + x + 9 = x
4x + 9 = x
-4x -4x
9 = -3x
x = -3
21
4x-1
$\frac{3}{1} - \frac{2}{4x-1} = \frac{3x}{4x-1}$
12x - 3 - 2 = 3x
-12x -12x
-5 = -9x
x = 5/9
22
2x-1
$\frac{5}{1} - \frac{3}{2x-1} = \frac{x-4}{2x-1}$
10x - 5 - 3 = x - 4
-x +8 -x + 8
9x = 4
9 9
x = 4/9
23
x-5
$\frac{8}{1} + \frac{6}{x-5} = \frac{x-13}{x-5}$
8x - 40 + 6 = x - 13
-x +34 -x +34
7x = 21
7 7
x = 3
24
2-x
$\frac{1}{1} + \frac{x}{2-x} = \frac{6x}{2-x}$
2 - x + x = 6x
2/6 = 6x/6
x = 1/3
Created with Doceri


25
$\frac{x}{1} + \frac{x+5}{x-7} = \frac{10x-58}{x-7}$
$x-7$
$x^2 - 7x + x + 5 = 10x - 58$
$-10x \quad +58 \quad -10x + 58$
$x^2 - 16x + 63 = 0$
$(x-7)(x-9) = 0$
$x = 7 \quad x = 9$
26
$\frac{1}{1} - \frac{13}{x} + \frac{36}{x^2} = \frac{0}{1}$
x^2
$x^2 - 13x + 36 = 0$
$(x-9)(x-4) = 0$
$x = 9 \quad x = 4$
27
$\frac{3}{x+1} - \frac{1}{x+4} = \frac{x+12}{x^2+5x+4}$
$(x+4)(x+1)$
$3x+12 - x - 1 = x + 12$
$-x \quad -x$
$-11 \quad -11$
$x = 1$
$x = 1$
28
$\frac{6}{x+2} + \frac{5}{x-2} = \frac{20}{x^2-4}$
$(x+2)(x-2)$
$6x - 12 + 5x + 10 = 20$
$+2 \quad +2$
$\frac{11x}{11} = \frac{22}{11}$
$x = 2$
No Sol
29
$\frac{7}{x+5} + \frac{3}{x-5} = \frac{30}{x^2-25}$
$(x+5)(x-5)$
$7x - 35 + 3x + 15 = 30$
$+20 \quad +20$
$10x = 50$
$x = 5$
No Sol
30
$\frac{3}{x+4} - \frac{1}{x+3} = \frac{x+9}{x^2+7x+12}$
$(x+4)(x+3)$
$3x + 9 - x - 4 = x + 9$
$-x \quad -x$
$-5 \quad -5$
$x = -4$
No Sol
Created with Doceri


Created with Doceri