Trig 4.6

Solve rational equations =

Solve rational inequalities (zones)

$t+1=0 \quad 2t-1=0$

$t \neq -1 \quad 2t=1$

$t \neq \frac{1}{2}$

(1) $\frac{1}{(2t-1)} + \frac{1}{(t+1)} = \frac{3}{(2)}$ $(2t-1)(t+1)(2)$

$2(t+1) + 2(2t-1) = 3(2t-1)(t+1)$

$= 3(2t^2+t-1)$

$2t+2+4t-2$

$6t = 6t^2+3t-3$

$-6t \quad -6t$

$6t^2-3t-3=0$

$\frac{6t^2}{3} - \frac{3t}{3} - \frac{3}{3} = 0$

$2t^2-t-1=0$

$x = \frac{1 \pm \sqrt{1-4\cdot 2\cdot -1}}{2\cdot 2}$

$x = \frac{1 \pm \sqrt{9}}{4} \quad \frac{1\pm 3}{4}$

$x = \frac{1+3}{4} = \frac{4}{4} = 1$

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

$2t-1$

$t+1$

$2t-1$

$2t^2-t$

Clear denom
Solve
Check answers

Lesson 4-6 *(Pages 243–250)*

Solve each equation or inequality.

1. $\frac{6}{x} + x = 5$

2. $\frac{7}{y-1} - \frac{4}{y} = \frac{y}{y-1}$

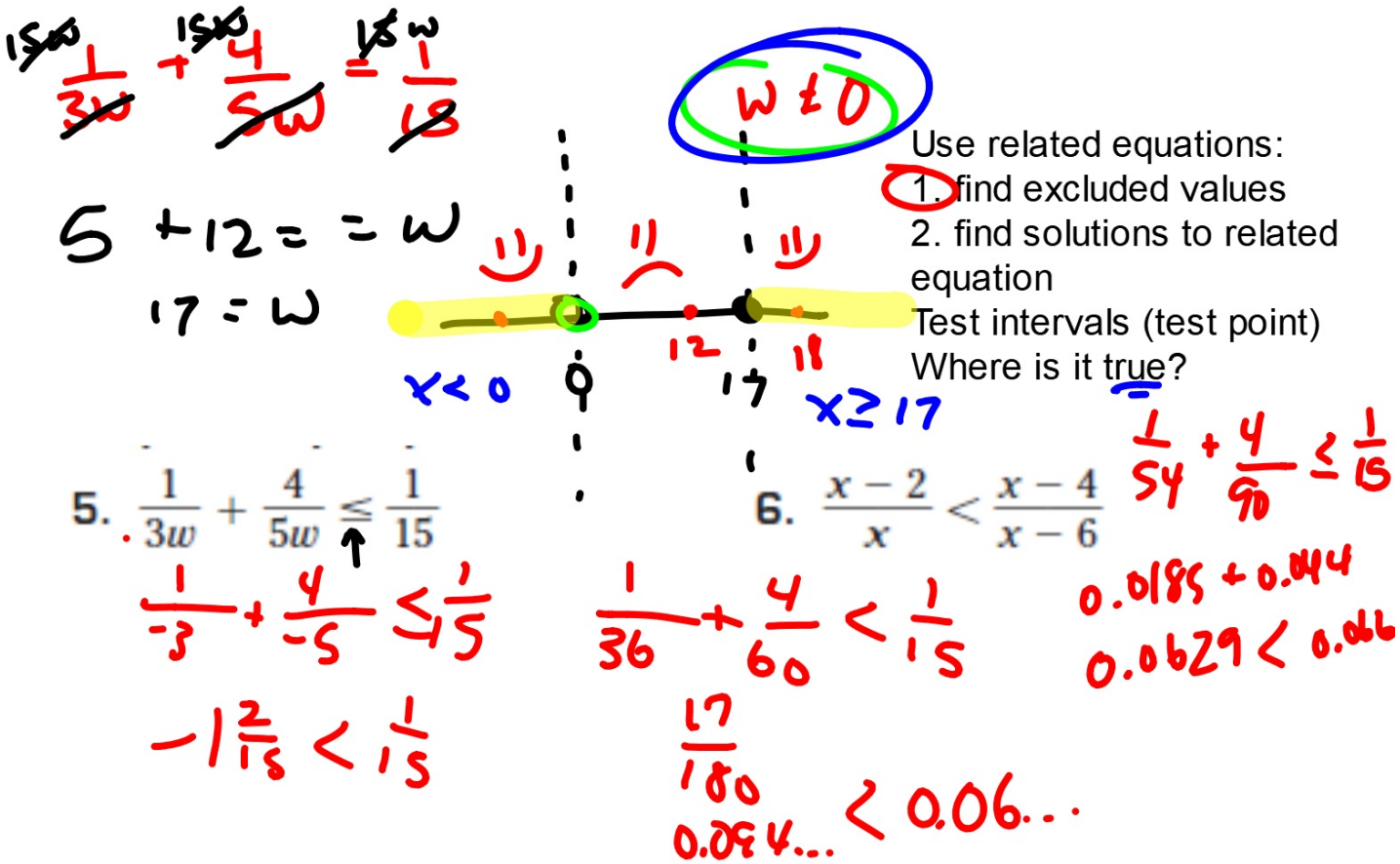
$x \quad x \quad y$
$\not{0} \quad 1 \quad 1$

$6 + x^2 = 5x$

$x^2 - 5x + 6 = 0$

6
$-3 \quad -2$
-5

$(x-3)(x-2) = 0$
$x=3 \quad x=2$



5. $\frac{1}{3w} + \frac{4}{5w} \leq \frac{1}{15}$

6. $\frac{x-2}{x} < \frac{x-4}{x-6}$

$a \neq 1$

1. find excluded values
2. find solutions to related equation
3. test intervals on number line
4. Where is it true? < > etc.

10. $1 + \frac{5}{a-1} \leq \frac{7}{6}$

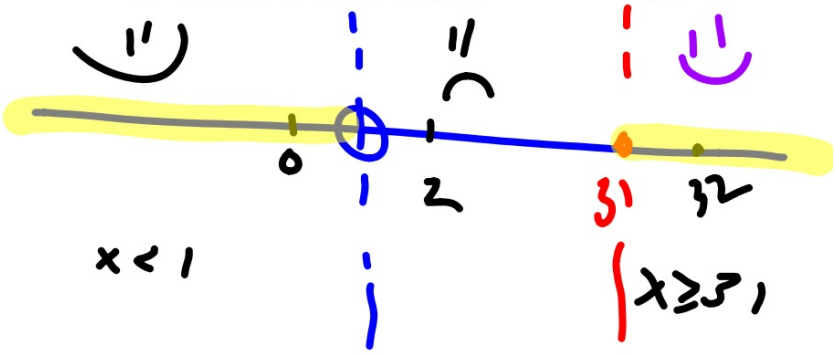
$6(a-1) + 6 \cdot \frac{5}{a-1} = \frac{7}{6} \cdot 6(a-1)$

$6a - 6 + 30 = 7a - 7$

$6a + 24 = 7a - 7$

$-6a + 7 \quad -6a + 7$

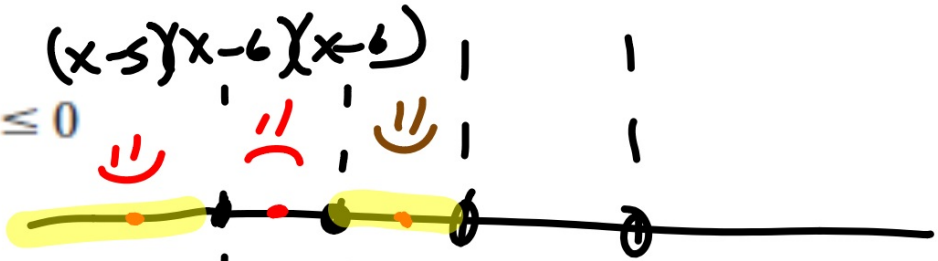
$31 = a$



$(x-5)(x-6)(x-6)$

29. $\dfrac{(x-3)(x-4)}{(x-5)(x-6)^2} \le 0$

$(x-5)(x-6)(x-6)$



$\dfrac{(1.5)(.5)}{(-.5)(-1.5)(-1.5)} \le 0$

$\dfrac{+}{-} \le 0$

WB

1-6

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