(1) $\frac{x+9}{4} \not\equiv \frac{x-4}{7}$

SINGLE FRACTION — SINGLE FRACTION

"PROPORTION"

$4(x-4) = 7(x+9)$

$4x - 16 = 7x + 63$

$4x - 7x = 63 + 16$

$-3x = 79$

$\frac{-3x}{-3} = \frac{79}{-3}$

$x = -\frac{79}{3}$

(2) $\frac{x+2}{5x-12} \not\equiv \frac{3}{x}$

$x(x+2) = 3(5x-12)$

$x^2 + 2x = 15x - 36$

$x^2 + 2x - 15x + 36 = 0$

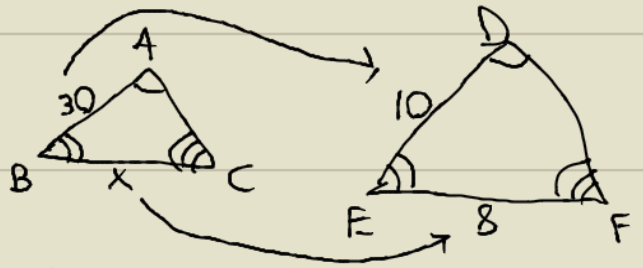
$x^2 - 13x + 36 = 0$ (FOIL)

$(x-4)(x-9) = 0$

$x - 4 = 0 \quad x - 9 = 0$

$x = 4 \quad x = 9$

(3)



$\frac{x}{8} \not\equiv \frac{30}{10}$

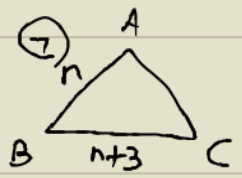
$10x = 8(30)$

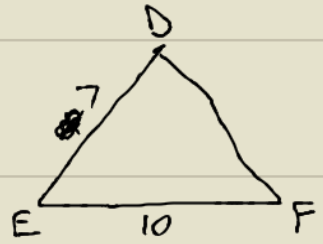
$10x = 240$

$\frac{10x}{10} = \frac{240}{10}$

$x = 24$

(4)





(10)

$\frac{n}{7} \not\equiv \frac{n+3}{10}$

$10n = 7(n+3)$

$10n = 7n + 21$

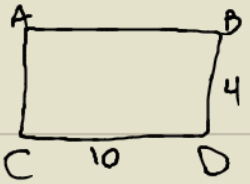
$10n - 7n = 21$

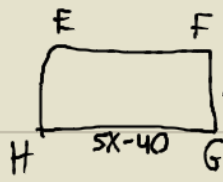
$3n = 21$

$\frac{3n}{3} = \frac{21}{3}$

$n = 7$

(5)





(10)

$\frac{4}{x-3} \not\equiv \frac{10}{5x-40}$

$4(5x-40) = 10(x-3)$

$20x - 160 = 10x - 30$

$20x - 10x = -30 + 160$

$10x = 130$

$\frac{10x}{10} = \frac{130}{10}$

$x = 13$

(6) $\frac{1}{10} + \frac{1}{6} = \frac{1}{x}$

DAVID — FRANK

(7) $\frac{1}{8} + \frac{1}{x} = \frac{1}{3}$

SALLY — JUDY

(8) $\frac{1}{x+8} + \frac{1}{x} = \frac{1}{20}$

PIPE A — PIPE B

(9) $\frac{2}{10-c} = \frac{5}{10+c}$

(10) $\frac{3}{x-5} = \frac{8}{x+5}$