Bellwork Alg 2A Monday, June 5, 2017

Solve each rational equation.

1. $\frac{-6}{x+5} = \frac{2}{x-7}$

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

3. $\frac{x-6}{3} = \frac{-3}{x+4}$

4. $\frac{1}{9} + \frac{5}{18x} = \frac{7}{3x^2} + \frac{3}{2x} + \frac{1}{6}$

5. Hamzi and Carly walked at the same speed. Carly walked 19.5 miles. Hamzi walked 13 miles in 2 fewer hours. Write and solve an equation to find out how much time each person walked.

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Answers

Solve each rational equation.

1. $\frac{-6}{x+5} = \frac{2}{x-7}$

$-6(x-7) = 2(x+5)$

$-6x+42 = 2x+10$

$32 = 8x$

$x=4$

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

$3(x^2+2x+4) = 4(x^2-1)$

$3x^2+6x+12 = 4x^2-4$

$0 = x^2-6x-16$

$(x-8)(x+2)=0$

$x=-2, 8$

3. $\frac{x-6}{3} = \frac{-3}{x+4}$

$x=-3, 5$

$(x-6)(x+4) = -9$

$x^2-2x-24 = -9$

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

$(x-5)(x+3)=0$

4. $18x^2\left(\frac{1}{9} + \frac{5}{18x}\right) = \left(\frac{7}{3x^2} + \frac{3}{2x} + \frac{1}{6}\right)18x^2$

$2x^2+5x = 42+27x+3x^2$

$0 = x^2+22x+42$

use QUAD FORMULA

$\frac{-22 \pm \sqrt{316}}{2}$

$x=-2.11, -19.89$

5. Hamzi and Carly walked at the same speed. Carly walked 19.5 miles. Hamzi walked 13 miles in 2 fewer hours. Write and solve an equation to find out how much time each person walked.

	$d = r \cdot t$			
Hamzi	13	$=$	r	$t-2$
Carly	19.5	$=$	r	t

$r = \frac{13}{t-2}$

$r = \frac{19.5}{t}$

$\frac{13}{t-2} = \frac{19.5}{t}$

$13t = 19.5(t-2)$

$13t = 19.5t - 39$

$39 = 6.5t$

$t=6$

Carly walked 6 hrs & Hamzi 2 hrs