HW17
p92

8. a) $7-3(-3)=5(-3)-17$
$16 = -32$ no

b) $7-3(0)=5(0)-17$
$7 = -17$ no

10. a) $5(2)^3+2(2)-3=4(2)^3+2(2)-11$
$40+4-3 = 32+4-11$
$41 = 25$ no

b) $5(-2)^3+2(-2)-3=4(-2)^3+2(-2)-11$
$-40-4-3 = -32-4-11$
$-47 = -47$ yes!

12. a) $\frac{-2}{2}+\frac{6(-2)}{7}=\frac{19}{14}$
$-1+\frac{-12}{7}=\frac{19}{14}$
$-\frac{19}{7}=\frac{19}{14}$ no

b) $\frac{1}{2}+\frac{6(1)}{7}=\frac{19}{14}$
$\frac{7}{14}+\frac{12}{14}=\frac{19}{14}$ yes!

14. a) $\frac{(-3+5)(-3-3)}{2}=24$
$\frac{2(-6)}{2}=24$
$\frac{-12}{2}=24$
$-6=24$ no

14. b) $\frac{(-2+5)(-2-3)}{2}=24$
$\frac{3(-5)}{2}=24$
$-\frac{15}{2}=24$ no

54. $8x+10-6x-3=2x+10$
$2x+13=2x+10$
$13=10$
no solution

55. $\left(\frac{100-4x}{3}=\frac{5x+6}{4}+6\right)12$
$400-16x=15x+18+72$
$400-16x=15x+90$
$310=31x$
$\boxed{10=x}$

56. $\left(\frac{17+y}{y}+\frac{32+y}{y}=100\right)y$
$17+y+32+y=100y$
$49+2y=100y$
$49=98y$
$\boxed{\frac{1}{2}=y}$

57. $15x-12=10x+8$
$5x=20$
$\boxed{x=4}$

64. $\left(\frac{7}{2x+1} - \frac{8x}{2x-1} = -4\right)(2x+1)(2x-1)$

$7(2x-1) - 8x(2x+1) = -4(2x+1)(2x-1)$

$14x - 7 - 16x^2 - 8x = -4(4x^2 - 1)$

$-16x^2 + 6x - 7 = -16x^2 + 4$

$6x - 7 = 4$

$6x = 11$

$\boxed{x = 11/6}$

65. $\left(\frac{2}{(x-4)(x-2)} = \frac{1}{x-4} + \frac{2}{x-2}\right)(x-4)(x-2)$

$2 = x-2 + 2(x-4)$

$2 = x - 2 + 2x - 8$

$2 = 3x - 10$

$12 = 3x$

$4 = x \longrightarrow$ extrenuous solution

66. $\left(\frac{4}{x-1} + \frac{6}{3x+1} = \frac{15}{3x+1}\right)(3x+1)(x-1)$

$4(3x+1) + 6(x-1) = 15(x-1)$

$12x + 4 + 6x - 6 = 15x - 15$

$18x - 2 = 15x - 15$

$3x = -13$

$\boxed{x = -13/3}$

67. $\left(\frac{1}{x-3} + \frac{1}{x+3} = \frac{10}{(x-3)(x+3)}\right)(x-3)(x+3)$

$x+3 + x-3 = 10$

$2x = 10$

$\boxed{x = 5}$