Name Key

Date _____

Mrs. Roumbos

8A CC Alg 1

Midterm

Do Now

1) What is the value of x in the equation below?

$\frac{x-5}{2}+\frac{1}{4}=\frac{6}{4}$

$-\frac{1}{4}\ -\frac{1}{4}$

$\frac{x-5}{2}=\frac{5}{4}$

$4(x-5)=10$

$4x-20=10$

$+20\ +20$

$\frac{4x}{4}=\frac{30}{4}$

$x=7\frac{1}{2}$

or

$\frac{x-5}{2}+\frac{1}{4}=\frac{6}{4}$

$-\frac{1}{4}\ -\frac{1}{4}$

$2\left(\frac{x-5}{2}\right)=\frac{5}{4}(2)$

$x-5=\frac{10}{4}$

$+5\ +5$

$x=7\frac{1}{2}$

2) What is the value of x in the equation below?

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

$-\frac{1}{2}\ -\frac{1}{2}$

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

$2(x-3)=12$

$2x-6=12$

$+6\ +6$

$\frac{2x}{2}=\frac{18}{2}$

$x=9$

or

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

$-\frac{1}{2}\ -\frac{1}{2}$

$4\left(\frac{x-3}{4}\right)=\left(\frac{3}{2}\right)4$

$x-3=6$

$+3\ +3$

$x=9$

3) What is the value of x in the equation below?

$\frac{x-4}{3}+\frac{1}{8}=\frac{7}{8}$

$-\frac{1}{8}\ -\frac{1}{8}$

$\frac{x-4}{3}=\frac{6}{8}$

$8(x-4)=18$

$8x-32=18$

$+32\ +32$

$\frac{8x}{8}=\frac{50}{8}$

$x=6\frac{1}{4}$

or

$\frac{x-4}{3}+\frac{1}{8}=\frac{7}{8}$

$-\frac{1}{8}\ -\frac{1}{8}$

$3\left(\frac{x-4}{3}\right)=\left(\frac{6}{8}\right)(3)$

$x-4=\frac{18}{8}$

$+4\ +4$

$x=6\frac{1}{4}$