Algebra 3-4
Unit 1: Solving Day 4

Name: _____ Per: ____
Date: _____

POP QUIZ!!
Each problem below is incorrect. Find the error and rework the problem off to the right.

1. $\frac{x-3}{5} + 4 = -10$

$x-3+4=-50$
$x+1=-50$
$x=-51$

Didn't multiply 4 by 5
$x-3+20=-10$
$x+17=-10$
$x=-27$

2. $2|x-5|+12=30$

$2|x-5|=18$
$x-5=9$
$x=14$

Lost absolute value bars
$|x-5|=9$
$x-5=9$ $\quad x-5=-9$
$x=14$ $\quad x=-4$

3. $4(x+3)^2-8=100$

$(4x+12)^2-8=100$
$(4x+12)^2=108$
$4x+12=\sqrt{108}$
$4x+12=10.39$
$4x=-1.6$
$x=-0.40$

Can't distribute if there's an exponent
$4(x-3)^2-8=100$
$+8 \quad +8$
$\frac{4(x-3)^2}{4}=\frac{108}{4}$
$(x-3)^2=27$
$x-3=5.20$ $\quad x-3=-5.20$
$x=8.2$ $\quad x=-2.2$

4. $3+4\sqrt{x+1}=5$

Can't combine because 4 is multiplied by the radical

$7\sqrt{x+1}=5$

$3+4\sqrt{x+1}=5$

$-3 \quad -3$

$\sqrt{x+1}=\frac{5}{7}$

$\frac{4\sqrt{x+1}}{4}=\frac{2}{4}$

$(\sqrt{x+1})^2=(\frac{5}{7})^2$

$(\sqrt{x+1})^2=(1/2)^2$

$x+1=\frac{25}{49}$

$x+1=1/4$

$x=-0.49$

$-1 \quad -1$

$x=-3/4$

5. $|x-4|=3$

$x-4=3$ $\quad x=7$

$x+4=3$ $\quad x=-1$

Don't change inside of absolute value

$|x-4|=3$

$x-4=3$ $\quad x=7$

$x-4=-3$ $\quad x=1$

6. $8-\frac{3}{x}=32$

$-\frac{3}{x}=24$

$x=-8$

Multiply by x to undo fraction

$x\left(-\frac{3}{x}=24\right)\cdot x$

$\frac{-3}{24}=\frac{24x}{24}$

$-\frac{3}{24}=x=-\frac{1}{8}$