Warm-up

Solve the following.

a) 3x = 246

b) x + 13 = 52

$c)\ \ 10 = 3x - 2$

d) 5 - 2x = 7

Solving Equations with Two Variable Terms.

Example 1)Solve the following equation, write out the steps for each line.

1) $5x + 8 = x$

2) 3x - 5 = 7 - 3x

Example 2) Solve each of the following equations.

1) $6 + x = 4x$ Check:

2) $3 + x = -4x - 42$

3) $2x - 3 = 6 - x$

4) $12 + x = -2x + 9$

Example 3) Which Solution is correct?

The equation $3x - 7 = 9x + 5$ was solved by three different students, as shown below. Only one of their solutions is correct! Determine which student was correct and then verify that solution using substitution. For incorrect solutions describe the errors.

Bella's Solution	Edward's Solution	Harry Potter's Solution
$3x - 7 = 9x + 5$	$3x - 7 = 9x + 5$	$3x - 7 = 9x + 5$
$3x - 7 + 7 = 9x + 5 + 7$	$3x - 7 - 7 = 9x + 5 - 7$	$3x - 9x - 7 = 9x - 9x + 5$
$3x = 9x + 12$	$3x = 9x - 2$	$-6x - 7 = 5$
$3x - 9x = 9x - 9x + 12$	$3x - 9x = 9x - 9x - 2$	$-6x = 5 + 7$
$-6x = 12$	$-6x = -2$	$-6x = 12$
$\frac{-6x}{-12} = \frac{12}{-12}$	$\frac{-6x}{-6} = \frac{-2}{-6}$	$\frac{-6x}{-6} = \frac{12}{-6}$
$x = -0.5$	$x = 0.3$	$x = -2$