Day 6 HW

Name: **ANSWER KEY**   Date: **JUNE 25**

1. Lin solved the equation 8(x - 3) + 7 = 2x(4 - 17) incorrectly. Below is her work:

(1) $8(x - 3) + 7 = 2x(4 - 17)$

(2) $8(x - 3) + 7 = \boxed{2x(13)}$

(3) $8x - 24 + 7 = 26x$

(4) $8x - 17 = 26x$
       $\underline{-8x \qquad -8x}$

(5) $\boxed{-17 = 34x}$

(6) $-\frac{1}{2} = x$

a. Find the errors in her solution.
   · The first error appeared in line 2 when solving (4-17) from line 1, which is supposed be 2x(-13) NOt 2x(13).
   · Another error is in line 4/5, which should be -17 = 18x since it is supposed to be subtracting 8x to both sides not adding.

b. What should her answer have been?
   $8(x-3)+7 = 2x(4-17)$
   $8x - 24 + 7 = 2x(-13)$
   $8x - 17 = -26x$
   $-17 = -34x$
   $17 = 34x$ → $x = \frac{17}{34} = \boxed{\frac{1}{2}}$

2. Diego is asked to solve 3k - 8 = 4(k+5).

a. What are two different methods he can use to solve for x in this problem?

   1. Apply distributive property on the left first

   3. divide both sides by 4 first

b. What is the solution? (Show work)
   1. $3k - 8 = 4(k+5)$
   $3k - 8 = 4k + 20$
   $3k = 4k + 28$
   $-k = 28$
   $k = -28$

Day 6

Complete the following exercises and show work:

1. $\dfrac{12+6x}{3} = \dfrac{5-9}{2} = \dfrac{-4}{2}$

① $\dfrac{12+6x}{3} = -2$

(multiply both sides by 3) : (3) ② $\cdot \dfrac{12+6x}{3} = -2(3)$

③ $12+6x = -6$
   $-12 \qquad\qquad -12$ (subtract 12 to both sides)

$6x = -18$
$\div 6 \qquad \div 6$ (divide both sides by 6)

$\boxed{x = -3}$

2. $x - 4 = \frac{1}{3}(6x - 54)$

$x - 4 = \dfrac{6x}{3} - \dfrac{54}{3}$

$x - 4 = 2x - 18$
$\;\;+4 \qquad\quad +4$

$x = 2x - 14$
$-2x \quad -2x$

$-x = -14$
$\div -1 \quad \div -1$

$\boxed{x = 14}$