NAME: _____ DATE: _____ CLASS: _____

Multi-Step Equations - How Many Solutions?

Directions: Solve each equation for the missing variable. You must show ALL your work!
Circle the correct answer and color the corresponding areas on the coloring sheet.

1. $-(6x - 5) = -6x + 13$	$x = \dfrac{17}{12}$ **Brown**	No solution **Red**	$x = -\dfrac{17}{12}$ **Orange**	Infinite Solutions **Yellow**
2. $13 + 2k = 3k + 4(k - 3)$	$k = 5$ **Yellow**	$k = -5$ **Black**	$k = \dfrac{1}{5}$ **Red**	No solution **Green**
3. $-5(-5 + 4a) = -23 - 8a$	$a = -4$ **Orange**	$a = \dfrac{1}{4}$ **Yellow**	$a = 4$ **Green**	Infinite Solutions **Purple**
4. $2x + 12 = 2(x + 6)$	$x = 0$ **Orange**	Infinite Solutions **Pink**	No solution **Blue**	$x = 8$ **Red**
5. $8n - 2(n + 5) = -3 + 6n$	$n = -13$ **Yellow**	$n = 13$ **Red**	Infinite Solutions **Green**	No solution **Orange**
6. $-16 - 6x = -6(x + 3)$	No solution **Lt. Blue**	$x = -\dfrac{1}{6}$ **Blue**	$x = \dfrac{1}{6}$ **Orange**	Infinite Solutions **Lt. Green**
7. $-4(5 + 3x) = -30 - 7x$	$x = 2$ **Lt. Green**	$x = -10$ **Red**	$x = -2$ **Blue**	$x = 10$ **Green**
8. $-7(n + 2) = -14 - 7n$	$n = 14$ **Green**	Infinite Solutions **Pink**	$n = -4$ **Purple**	$n = 4$ **Red**
9. $4 - 7n = -(8n + 4) + 2$	$n = -6$ **Blue**	$n = 6$ **Red**	No solution **Brown**	Infinite Solutions **Purple**
10. $7n + 12 = \dfrac{1}{2}(14n + 24)$	No solution **Purple**	$n = 0$ **Brown**	$n = 6$ **Green**	Infinite Solutions **Red**

Artwork by Sarah Pecorino