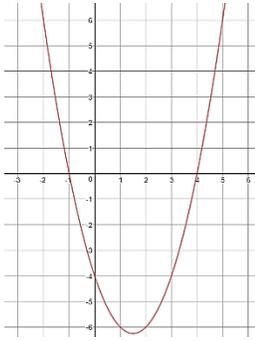Name:_____

F10: Explaining the steps!

The following quadratic function has been solved using completing the square. EXPLAIN what was done in each step

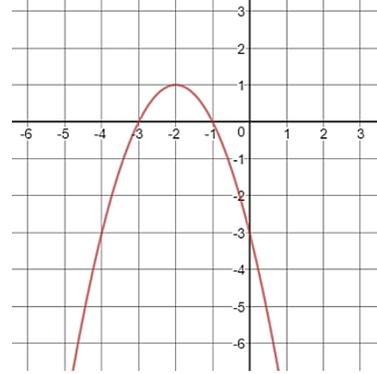| Step 1	$x^2 - 6x - 10 = 0$	Given
Step 2	$x^2 - 6x = 10$	
Step 3	$x^2 - 6x + 9 = 10 + 9$	
Step 4	$x^2 - 6x + 9 = 19$	
Step 5	$(x - 3)^2 = 19$	
Step 6	$x - 3 = \pm\sqrt{19}$	
Step 7	$x = \pm\sqrt{19} + 3$	

STATION 1: SOLVING BY GRAPHING AND FACTORING

What are the solutions to the following graphs?

1)	2)

Use the factor method to find the solutions to the following quadratics

3) $x^2 + 9x + 20 = 0$	4) $x^2 + 3x - 28 = 0$
5) $2x^2 + 13x - 7 = 0$	6) $5x^2 + 13x + 6 = 0$
7) $x^2 - x = 6$	8) $x^2 - 9x = 36$

STATION 3: SOLVING BY SQUARE ROOTS
Use the square root method to solve the following quadratics

1) $4x^2 + 2 = 74$	2) $(x - 2)^2 + 4 = 7$
3) $2x^2 - 338 = 0$	4) $5(x - 4)^2 = 125$
5) $0.55x^2 + 550 = 1430$	6) $-16x^2 + 1450 = 0$ (give answer as decimals)
7) $(x + 6)^2 - 8 = 24$	8) $3(x + 4)^2 - 1 = 5$
9) $2(x + 5)^2 - 5 = 25$	10) $5x^2 - 67 = 143$

STATION 4: SOLVING USING COMPLETING THE SQUARE

Solve the following by completing the square

1) $x^2 - 12x + 26 = 0$	2) $x^2 + 16x - 22 = 14$
3) $x^2 - 2x - 48 = -6$	4) $x^2 + 6x - 4 = 0$

Below is a problem that is solved by completing the square. There is a mistake. Identify the mistake (which step number) and then FIX the problem

$x^2 - 6x - 15 = 20$	Original equation
$x^2 - 6x = 35$	Step 1
$x^2 - 6x - 3 = 35 - 3$	Step 2
$x^2 - 6x - 3 = 32$	Step 3
$(x - 3)^2 = 32$	Step 4
$x - 3 = \pm 4\sqrt{2}$	Step 5
$x = \pm 4\sqrt{2} + 3$	Step 6