Multi-Step Equations

goal: isolate the variable

how: use inverse operations

Steps:

1) Get rid of parentheses (using distributive property or division)

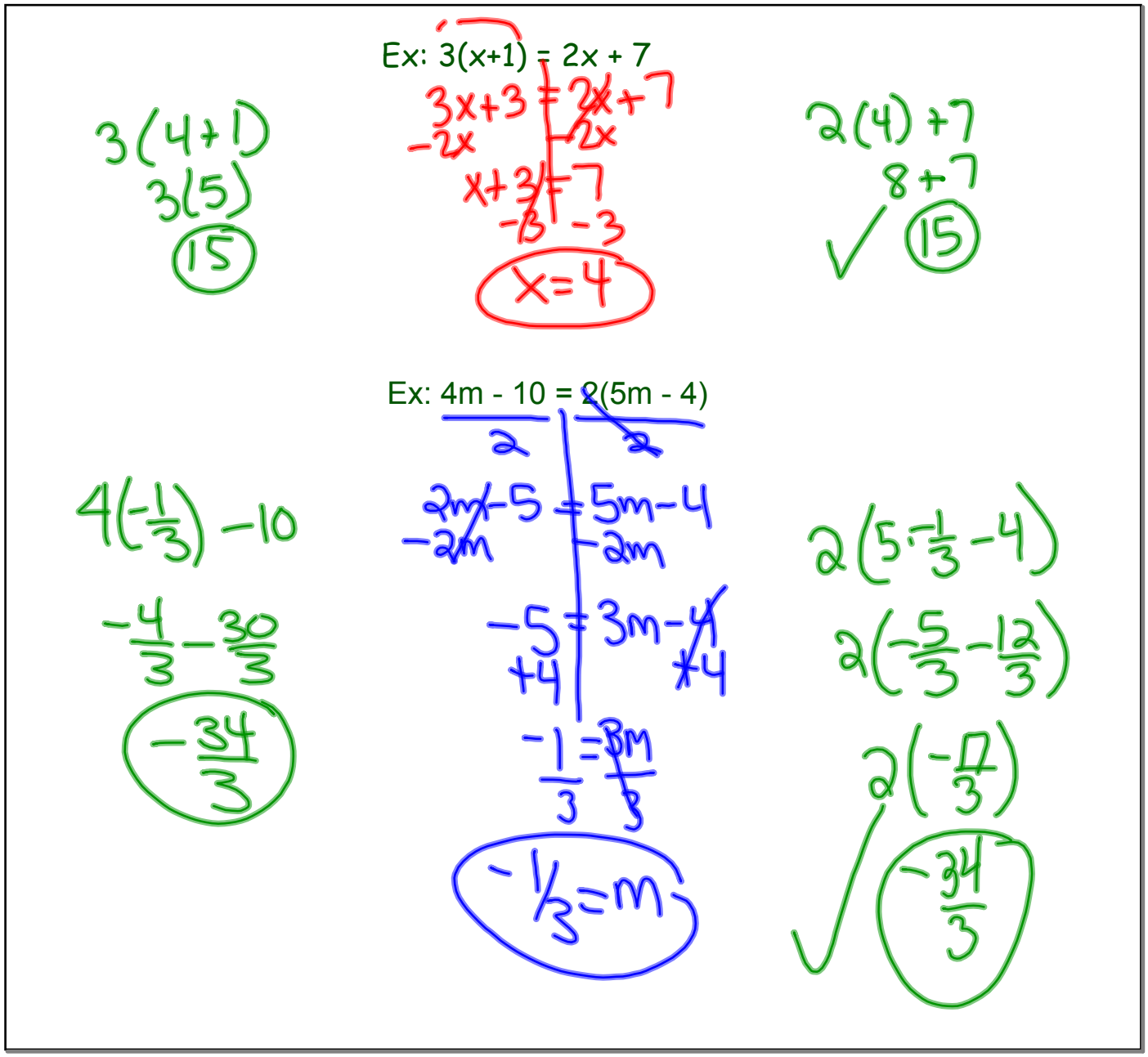
2) Combine like terms on EACH side of the equation

3) Get the variable on ONE side of the equation

4) Eliminate unattached term (constant) using inverse operations to both sides of the equation

5) Eliminate attached term (coefficient) using inverse operations to both sides of the equation

6) Check your answer by substitution


Ex: 3(x+1) = 2x + 7
3x+3 = 2x+7
-2x -2x
x+3 = 7
-3 -3
x=4
3(4+1)
3(5)
15
2(4)+7
8+7
15
Ex: 4m - 10 = 2(5m - 4)
2m-5 = 5m-4
-2m -2m
-5 = 3m-4
+4 +4
-1 = 3m
-1/3 = m
4(-1/3) -10
-4/3 - 30/3
-34/3
2(5·-1/3 -4)
2(-5/3 -12/3)
2(-17/3)
-34/3