

$$x^2 + bx + c$$

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Learning Goal 1.2**Factor trinomials of the form  $ax^2 + bx + c$ .

Someone didn't factor right!! The horror!! Your job is to find out who did it, with what and where! Factor each problem and find the answer on the left. Eliminate that suspect, location or weapon to find out who the dastardly villain is that messed up their math assignment!

Suspects	
Mr. Green	$(x + 1)(x - 1)$
Professor Plum	$(x + 11)(x - 1)$
Colonel Mustard	$(x + 8)^2$
Mrs. Peacock	$(x + 7)(x + 1)$
Miss Scarlet	$(x - 2)(x - 3)$
Mrs. White	<i>not factorable</i>

Weapons	
Candlestick	$(x - 10)(x - 1)$
Knife	$(x - 10)(x + 9)$
Lead Pipe	$(x + 6)(x - 8)$
Revolver	$(x - 8)(x - 5)$
Rope	$(x - 2)(x + 6)$
Wrench	$(x + 4)(x + 2)$



Rooms	
Conservatory	$(x - 9)(x - 8)$
Lounge	$(x - 9)(x - 1)$
Kitchen	$(x + 9)(x + 2)$
Library	$(x - 3)(x + 6)$
Hall	$(x + 6)(x - 4)$
Study	$(x + 7)(x - 8)$
Ballroom	$(x + 1)^2$
Dining Room	$(x - 5)(x - 2)$
Billiard Room	$(x + 10)(x - 9)$



1.  $x^2 + 8x + 7 = (x + 7)(x + 1)$

2.  $x^2 - 11x + 10 = (x - 10)(x - 1)$

3.  $x^2 + x - 90 = (x + 10)(x - 9)$

4.  $x^2 + 4x - 12 = (x + 6)(x - 2)$

5.  $x^2 - 10x + 9 = (x - 9)(x - 1)$

6.  $x^2 + 16x + 64 = (x + 8)^2$

7.  $x^2 + 2x - 24 = (x + 6)(x - 4)$

8.  $x^2 - 4x + 24$  not factorable

9.  $x^2 - 13x + 40 = (x - 5)(x - 8)$

10.  $x^2 + 11x + 18 = (x + 9)(x + 2)$

11.  $x^2 - x - 56 = (x - 8)(x + 7)$

12.  $x^2 - 5x + 6 = (x - 2)(x - 3)$

13.  $x^2 - x - 90 = (x + 9)(x - 10)$

14.  $x^2 - 7x + 10 = (x - 5)(x - 2)$

15.  $x^2 + 3x - 18 = (x + 6)(x - 3)$

16.  $x^2 + 6x + 8 = (x + 4)(x + 2)$

17.  $x^2 + 2x + 1 = (x + 1)^2$

18.  $x^2 - 1 = (x + 1)(x - 1)$