M137 - Intermediate Algebra   Name: _____

Exam 1 - Bonus   Date: _____

Here's a little magic trick that allows you to "guess" someone's birthday.[1]

Have someone do the following calculations (you can't look). When asked for their birthday month, they should use the corresponding number (Jan–1, Feb–2, Mar–3, etc.).

		Example – Sept. 10	You try one
1.	Enter the month of your birthday	9	
2.	Multiply that number by 5	9 x 5 = 45	
3.	Add 6 to that total	45 + 6 = 51	
4.	Multiply that answer by 4	51 x 4 = 204	
5.	Add 9 to that total	204 + 9 = 213	
6.	Multiply that answer by 5	213 x 5 = 1,065	
7.	Add the number of the day	1,065 + 10 = 1,075	
8.	Add 700 to that total	1,075 + 700 = 1,775	

******************** End of their part – Start of your part ********************

9.	Have the person give the number they calculated in #8 to you.	1,775	
10.	You subtract 865 from the number (now they can't know that you're doing this).	1775-865 = 910	
11.	The first two digits (or one) will be the month, the last two digits the day.	09 or 9 (September) 10 (the 10th)	

EXAM 3 CHALLENGE QUESTIONS:
 1. (Bonus 1 point) Why is your instructor giving this to you, and why now?

 2. (Bonus 4 points) Why (actually, how) does it work?

1. From "Mathemagic" by Raymond Blum