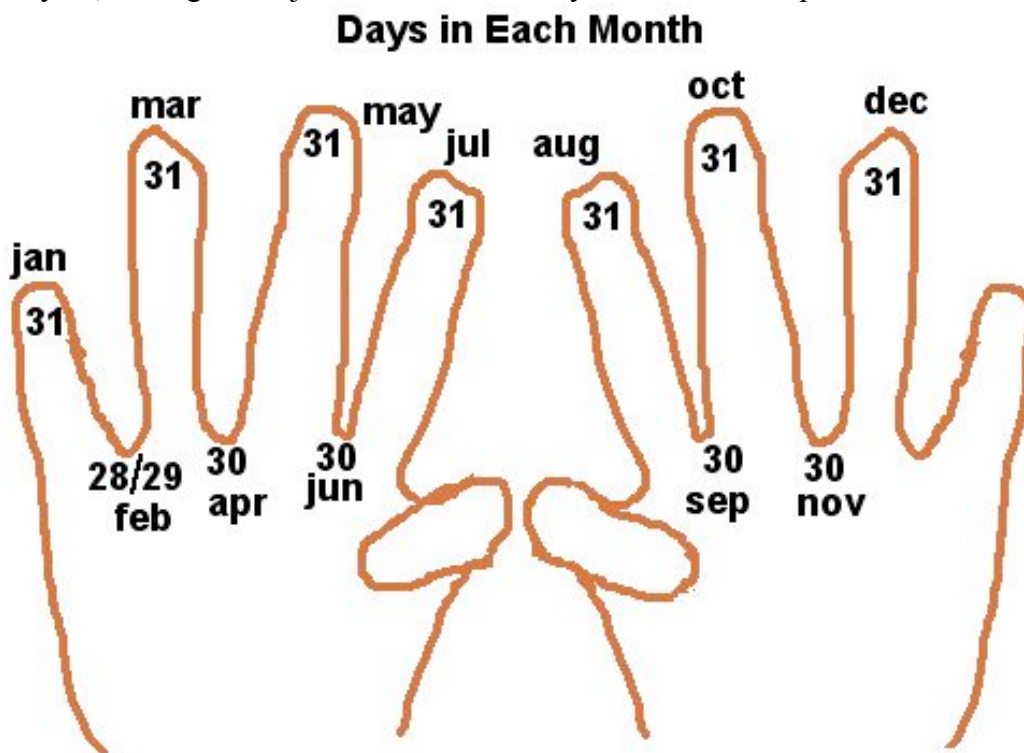


How to Do Some Date Arithmetic

Recently, I had a few date arithmetic problems that I was solving when it occurred to me that this is something I should write about. Here are some examples of such a problem:

- (1) I am writing this on August 21, 2009, and I was reminding my granddaughter that she starts school on Tuesday, September 8, 2009. How many days is that away?
- (2) I may have a contract starting on Monday, September 28, 2009 and continuing for 15 weeks. What day does it end?
- (3) What is the date 5 weeks from now?

Here is my method of quickly getting an answer. It is necessary for the reader to know how many days there are in each month. One way is the rhyme that goes something like this: "Thirty days hath September, April, June and November. All the rest have thirty-one, except February which has 28 or 29 on leap years". I know it doesn't exactly rhyme, but it gets the job done. Another way is to look at the picture below:



In any case, once you know the number of days in each month, then I solve the above problems the following way:

- (1) September the 8th is the same as August 39th (31 days in August + 8 days = 39 days). So, since today is August 21st then $39 - 21 = 18$ days until school starts.
- (2) 15 weeks is 105 days ($15 \times 7 = 105$). This means the contract will end on September 133rd (Sept 28 + 105 = Sept 133). October, with 31, November, with 30 and December, with 31, gives us 92 days. ($31 + 30 + 31 = 92$). So, December 31st is actually September 122nd. (Sept 30 + 92 = Sept 122). So the difference between September 133 and September 122, is 11 days. ($133 - 122 = 11$). So, the contract will end on January 11th, 2010. Since this again is a Monday, I assume the actual contract will end on Friday, January 8th.
- (3) If today, the day I am writing this, is August 21, 2009. Then 5 weeks, or 35 days ($7 \times 5 = 35$) is August 56th. (August 21 + 35 = August 56). Since August has 31 days, then $56 - 31 = 25$, so, five weeks from now will be September 25th.