

Please note that Problem of the **Week 2 and/or Week 3** must be handed in **until this Friday (at 3:15 p.m.)** - this change is due to the Winter Break coming, and winners must be drawn by Friday, at 3:20

## **The Twelve Days of Christmas - How Many Presents?**

**Week 3: Dec. 14 - 18**

You may be familiar with the Christmas song, *The 12 Days of Christmas*.

*The first few lines go like this:*

**On the first day of Christmas,  
my true love sent to me  
A partridge in a pear tree.  
On the second day of Christmas,  
my true love sent to me  
Two turtle doves,  
And a partridge in a pear tree.  
On the third day of Christmas,  
my true love sent to me  
Three French hens,  
Two turtle doves,  
And a partridge in a pear tree ...**



The song continues, adding 4 calling birds on the 4th day, 5 golden rings on the 5th, and so on up to the 12th day, when 12 drummers add to the cacophony of assorted birds, pipers and lords leaping all over the place. Notice that on each day there is one partridge (so I will have 12 partridges by the 12th day), and each day from the second day onwards there are 2 doves (so I will have 22 doves), and from the 3rd there are 3 hens (total of 30 hens), and so on.

**So, how many presents are there altogether?**