Name: Date:

1. $\boxed{\text{Monday}}$

2. Tiffany takes 9 lessons a week. Divide 100 by 9 and write it out using the Division Algorithm: $100 \div 9 = 11R1$. So we write $100 = 9 \times 11 + 1$, which is $number = divisor \times quotient + remainder$. This notation is very useful to us because it shows us how to solve calendar problems easily. So Tiffany has 11 weeks of 9 lessons, with a remainder 1 lesson. So if she starts Monday, her last lesson of the complete 11 weeks of 9 lessons will be Sunday. Then her remainder 1 lesson will be Monday. But she takes 2 lessons on Monday, so the last lesson of her 100 lesson package is on Monday, and the first lesson of her second package is also $\boxed{\text{Monday}}$.

3. Write 84 using the Division algorithm (see problem 2): $84 = 6 \times 14 + 0$. So this means Benjamin gets 14 complete weeks of 6 lessons per week. If he starts on Sunday, then the lessons will end on $\boxed{\text{Friday}}$.

4. March has 31 days. If it has exactly 4 Mondays and 4 Thursdays, then the first day of the month must be Friday. This is true because if you draw out the calendar, if a month with 31 days starts on a Friday, it has 4 Mondays and 4 Thursdays, and the last day occurs on Sunday. So using math or drawing a picture of a calendar, we see that the 20th occurs on a $\boxed{\text{Wednesday}}$.

5. Let there be 53 Sundays in a year. This is the maximum possible number of days that can be a single day of the week in a year. This means that January 1 starts on Sunday, and January 31 is on Tuesday. So there will be 5 Sundays in this January. Now quickly go through the rest of the months of this year and see how many months have 5 Sundays.

   Feb: Feb 1 = Wed, Feb 28 = Tues. 4 Sundays.

   Mar: Mar 1 = Wed, Mar 31 = Fri. 4 Sundays.

   Apr: Apr 1 = Sat, Apr 30 = Sun. 5 Sundays.

   May: 4 Sundays.

   June: 4 Sundays.

   July: 5 Sundays.

   Aug: 4 Sundays.

   Sept: 4 Sundays.

   Oct: 5 Sundays.

   Nov: 4 Sundays.

   Dec: 5 Sundays.

   So there are $\boxed{5}$ months with 5 Sundays.

6. Write a timeline with $DBY \bullet Yest \bullet Today \bullet Tom \bullet DAT$, where DBY = day before yesterday, and DAT = day after tomorrow. If we start with DBY and jump forward 4 days, we land on DAT. So the day after tomorrow is a $\boxed{\text{Monday}}$

7. $\boxed{\text{Monday}}$

8. $\boxed{\text{Sunday}}$

9. A French-American will be confused when he sees a number larger than a month can be in the month spot. For instance, on February 26, 2010 which Americans write 2/26/2010, a French-American will be confused, because he is used to seeing months in the middle spot, and 26 cannot be a month. So anytime the date is 13, 14, 15, and so on, larger than 12, he will be confused.

   So we need to count how many days of the week have a date number larger than 13.

   In the months that have 31 days (Jan, Mar, May, Jul, Aug, Oct, Dec), the dates larger than 12 are $13, 14, \ldots 30, 31$. There are 19 numbers in this list. So there are 7 months with 19 Confusing days, so there are $7 \times 19 = 133$ Confusing days in these months.

   In the months that have 30 days (Apr, June, Sept, Nov), the dates larger than 12 are $13, 14, \ldots 29, 30$. There are 18 numbers in this list. So there are 4 months with 18 Confusing days, so there are $4 \times 18 = 72$ Confusing days in these months.

   In the month with 28 days (Feb), the dates larger than 12 are $13, 14, \ldots, 27, 28$. There are 16 numbers in this list. So there are 16 Confusing days in February.

   Therefore, in total, there are $133 + 72 + 16 = \boxed{221}$ Confusing days.

10. $\boxed{\text{Sunday}}$