Working with Remainders Answer Sheet

Use modular arithmetic to solve these problems. Answer the following questions, using the activity to check your work:

1.   If my birthday was on a Tuesday last year, and this year is not a leap year, what day of the week will my birthday be on this year?

     Set the clock size to 7 (the number of days in a week)
     Set the starting time to 3 (because Tuesday is the third day of the week)
     Set the elapsed time to 365 (for the number of days in the year)
     Answer is: **Wednesday** (shown by a 4 on the clock)

2.   I had 34 cookies that I divided evenly among 4 friends. I ate the leftover cookies. How many cookies did I eat?

     Set the clock size to 4 (the number of friends you are dividing by)
     Set the starting time to 0
     Set the elapsed time to 34
     Answer: **4 remaining cookies**

3.   I bought as many pencils as I could at 25 cents each and spent the rest of my money on stickers which cost 2 cents each. In all, I spent $1.60 before tax. How many stickers did I buy?

     Set the clock size to 25 (the price of one pencil)
     Set the starting time to 0
     Set the elapsed time to 160
     Divide the remaining money ($0.10) by 2 (the price of each pencil)
     Answer: **5 stickers**

4.   Using a regular deck of 52 cards, I dealt all the cards in the deck to Max, Keisha, and myself for a game of war. Were the cards dealt evenly?

     Set the clock size to 3
     Set the starting time to 0
     Set the elapsed time to 52
     Answer: **No** because there would be one card leftover

5.   A gallon of milk is 16 cups, and one pudding recipe uses 3 cups. I have 2 gallons of milk and want to make 10 recipes of pudding with at least 1 cup left to drink. Is this possible?

Set the clock size to 3
Set the start time to 0
Set the elapsed time to 32 (16 cups times 2 gallons)
Answer: **Yes**, because there would be 2 cups leftover.

6.   Summer camp starts on a Monday and lasts for 44 days. One what day will it end?

Set the clock size to 7
Set the start time to 2
Set the elapsed time to 44
Answer: **Wednesday** (represented by a 4)