1. $\boxed{\text{all}}$: each of 26, 32, and -4 are congruent to 2 (mod 6).

2. $\boxed{\text{a and c}}$

3. (a) $\boxed{0}$ (b) $\boxed{0}$ (c) 2010 (mod 7) $\equiv$ 1. So the 2010th number in the list is the 1st in the list, or $\boxed{1}$

4. (a) $47 \equiv 2 \pmod 5, 742 \equiv 2 \pmod 5$. $\boxed{\text{TRUE}}$

   (b) $23 \equiv 2 \pmod 3, 99 \equiv 0 \pmod 3$. $\boxed{\text{FALSE}}$

   (c) $33 \equiv 0 \pmod{11}, 333 \equiv 3 \pmod{11}$. $\boxed{\text{FALSE}}$

   (d) $33 \equiv 0 \pmod{11}.3333 \equiv 0 \pmod{11}$. $\boxed{\text{TRUE}}$

5. (a) Any odd number is $\equiv 1 \pmod 2$. $\boxed{\text{TRUE}}$

   (b) Any even number is $\equiv 0 \pmod 2$. $\boxed{\text{TRUE}}$

   (c) Any numbers that is 3 more than a multiple of 12 is $\equiv 3 \pmod{12}$. $\boxed{\text{TRUE}}$

   (d) $3 \equiv 0 \pmod 3$. $5 \equiv 2 \pmod 3$. $\boxed{\text{FALSE}}$

   (e) Any multiple of 6 is $\equiv 0 \pmod 6$. $\boxed{\text{TRUE}}$

   (f) Any multiple of 6 is divisible by 3, so it is $\equiv 0 \pmod 3$ $\boxed{\text{TRUE}}$

   (g) $3 \equiv 3 \pmod 6$. $6 \equiv 0 \pmod 6$. $\boxed{\text{FALSE}}$

6. Numbers that are congruent to 1 (mod 9) are of the form $9k + 1$ for all integer values of k. We want these numbers to be less than or equal to 200; in other words, $9k + 1 \leq 200$. Now we solve this inequality by subtracting by 1: $9k \leq 199$, and then dividing by 9: $k \leq 22.111$. Thus, k can be any value in the list $1, 2, 3, \ldots, 22$. So since k has 22 values, there are $\boxed{22}$ congruent to 1 (mod 9) less than or equal to 200.

7. $\boxed{0, 1, 2}$. 3 is not a residue of mod(3), because $3 \equiv 0 \pmod 3$.

8. (a) $\boxed{8 \cdot 1 + 2}$ (b) $\boxed{8 \cdot 3 + 4}$ (c) $\boxed{8 \cdot 37 + 5}$ (d) $\boxed{8 \cdot 299 + 0}$

9. (a) $\boxed{2}$ (b) $\boxed{6}$ (c) $\boxed{2}$ (d) $\boxed{9}$

10. (a) $\boxed{3}$ (b) $\boxed{0}$ (c) $\boxed{1}$ (d) $\boxed{0}$