1a) Refer to b

1b) Yes, whichever coin is lighter came from the fake bag

1c) If you are not allowed to know which bag each each coin came individually from: weigh two coins from one bag and one from another together

28-> 2 coins came from fake

29-> 2 coins came from real

2) 1 from first bag, 2 from second, 3 from third.

The deficit from 60 will reveal the bag that holds the fake coins, e.g., 59 -> bag one, 58 -> bag two…

3) Repeat strategy from question 2

1 from bag #1 …. 9 from bag #9

1)

1. 55
2. 550
3. 2 fake coins -> 548

3 fake coins -> 547

etc.

2)

a) No

b) If the fake coins are in bags 3 or 4, and she weighs only bags 3 or 4, then she will be able to quickly determine that those bags are indeed fake as they would weigh 45 grams.

c)The bags would weight 45 grams

3) Yes, this strategy would also work. If the total weight of the coins is the same as what a collection of all real coins is, then the fake bag is the other bag, otherwise refer to general strategy to determine bag number.