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Assignment: Section 6.2: 4, 6, 14, 32, 36 (7th edition)

4.

a) 5

b) 13

6.

N = d + 1 and k = d so at least $\lceil d + 1 / d \rceil$ = 2 will have the same remainder

14.

a) Subset of 11: {1, 10}, {2, 9}, {3, 8}, {4, 7}, {5, 6}. All of these pairs add up to 11. So therefore at least two of these will add up to 11

b) No, if you add another integer only one will add subset that will add to 100.

32.

Per Pigeonhole Principle, at least $\lceil 100{,}000{,}000/99{,}999{,}999 \rceil$ = 2 people earned the same amount last year.

36.

N = 6, k = 5, so at least $\lceil 6/5 \rceil$ = 2 computers are connected to the same number of computers