1. Let . Let . Let . That means and . Therefore because the inequality remains true when adding the same value to each side of the inequality.
3. 1. There is an even integer that does not equal the sum of any two prime integers.
4. 1. {2, 4}
5. Let and .

Suppose . That means that and . Since , and . Since , , and , and . Therefore .

⊇ Now suppose . That means that and . Since , and . And , and . Since , , and , and . Therefore .

1. 1. , , , .
   2. somebody loves everybody all the time.