1. 25 = **32**

2. C(10,4) = **210**

3. C(10, 5) = **252**

4. 26^3 – 25^3 = 17,576 – 15,625 = **1951**

5. (26)(25)(24) = **15,600**

6. 1000/5 = 200 divisible by 5

floor(1000/7) = 142 divisible by 7

floor(1000/35) = 28 divisible by both 5 and 7

200 + 142 – 28 = **314** divisible by 5 or 7 or both

7. a) **22**

b) **12**

c) **3**

d) **5**

8. C(18, 9) = **48,620**

9. a) C(16, 9) = C(16, 7) = **11,440**

b) 9! = **362,880**

c) (3)(2)(2)(3)(2) = **72**

10. This is equivalent to choosing a string of 10 asterisks and 4 bars, where an asterisk stands for a ball and a bar separates to bins. There are C(14, 4) = **1001** ways to distribute 10 indistinguishable balls among 5 distinguishable bins.

11. 9!/(3! 2!) = **30,240**