

Part 0

```
a=5;  
b=20;  
c=sqrt(a)*b;  
display(c)
```

```
c = 44.7214
```

```
d=20
```

```
d = 20
```

Part 1

```
% Q1  
n_seqs = 4^12  
  
% Q2  
n_aa_seqs = factorial(4)  
  
% Q3  
n_aa_methionine = factorial(3)  
  
% Q4  
n_aa_protein = n_aa_methionine * 4 * 6 * 4  
  
% Q5  
n_percentage = (n_aa_protein/n_seqs) * 100  
  
% Q6  
num = 0;  
for k = 0:4  
    n = nchoosek(5,k)*nchoosek(4,k);  
    num = num + n;  
  
end  
  
display(num)  
  
% Q7  
num_15 = 0;  
  
for k_15 = 0:15  
    n_15 = nchoosek(15,k_15)*nchoosek(15,k_15);  
    num_15 = num_15+n_15;  
end  
  
display(num_15)
```