In [38]:
```python
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd

def pmf_bernouli(theta,value):
    return (theta ** value) * ((1-theta) ** (1-value))
def likelihood(data,theta):
    return np.prod([pmf_bernouli(theta,item) for item in data])
def calc_likelihoods(data,thetas):
    return [likelihood(data,theta) for theta in thetas]
```
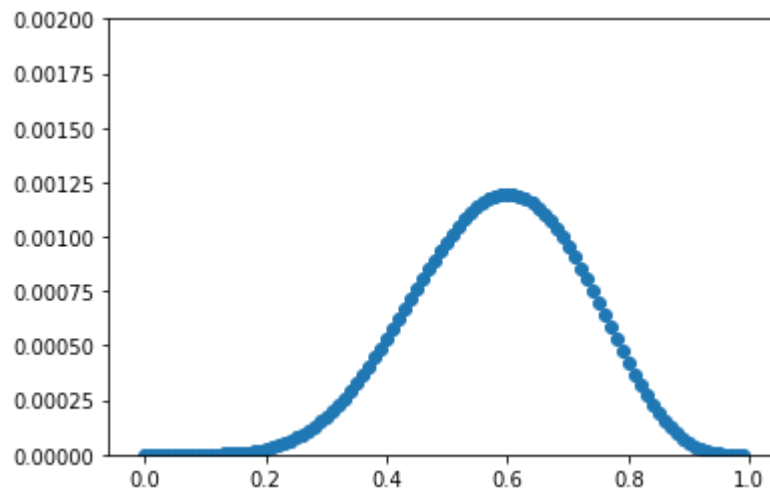
In [59]:
```python
x = np.arange(0,1,.01)
data_one = np.concatenate((np.ones(6),np.zeros(4)),axis=None)
y = calc_likelihoods(data_one,np.arange(0,1,.01))
plt.scatter(x,y)
plt.ylim(top = .002,bottom = 0)
```
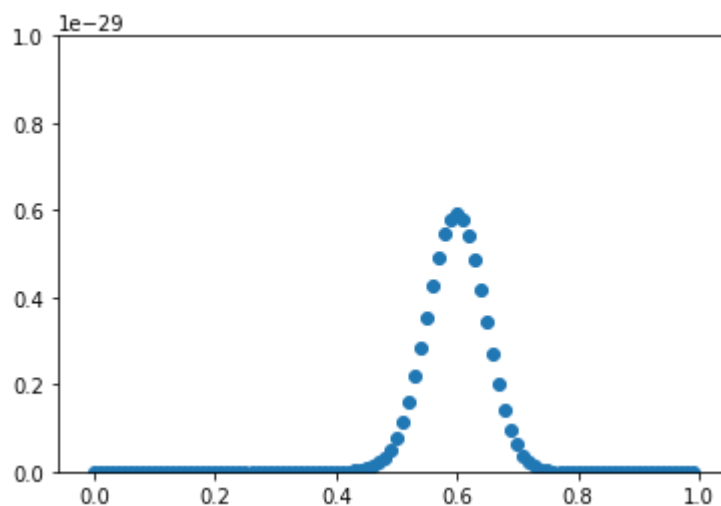
Out[59]: (0, 0.002)

In [ ]:
```python
data_two = np.concatenate((np.ones(3),np.zeros(2)),axis=None)
y = calc_likelihoods(data_two,np.arange(0,1,.01))
plt.scatter(x,y)
```

Out[ ]: <matplotlib.collections.PathCollection at 0x7f22825ed7b8>

In [72]:
```python
data_three= np.concatenate((np.ones(60),np.zeros(40)),axis=None)
y = calc_likelihoods(data_three,np.arange(0,1,.01))
plt.scatter(x,y)
plt.ylim(top = .00000000000000000000000000001,bottom = 0)
```

Out[72]: (0, 1e-29)

In [58]:
```python
data_four= np.concatenate((np.ones(5),np.zeros(5)),axis=None)
y = calc_likelihoods(data_four,np.arange(0,1,.01))
plt.scatter(x,y)
plt.ylim(top = .0025,bottom = 0)
```

Out[58]: (0, 0.0025)