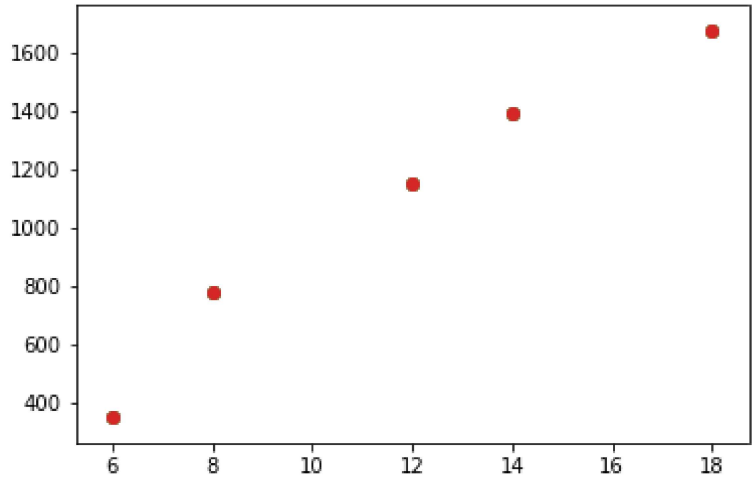
In [7]:
```
# Rakibul Islam
# 151-15-5131

import numpy as np
import matplotlib.pyplot as plt
x = np.array([6, 8, 12, 14, 18])
y = np.array([350, 775, 1150, 1395, 1675])
m_x = np.mean(x);
m_y = np.mean(y);
print(m_x)
print(m_y)
m_xy = np.mean(x*y)
print(m_xy)
m_xx = np.mean(x**2)
print(m_xx)
m_x2 = m_x**2
print(m_x2)
m_optimal = ((m_x*m_y)-m_xy)/(m_x2-m_xx)
print(m_optimal)
c_optimal = (m_y-(m_optimal*m_x))
print(c_optimal)
```

```
11.6
1069.0
14356.0
152.8
134.56
107.214912281
-174.692982456
```

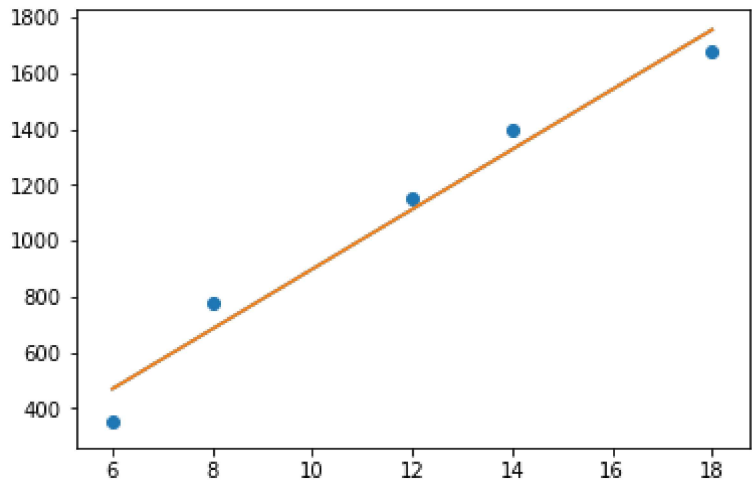
In [6]:
```
plt.scatter(x,y)
plt.show()
```



In [9]:
```
y_final = m_optimal * x + c_optimal
x_final =((y_final - c_optimal)/m_optimal)
print(x_final)
```

```
[  6.   8.  12.  14.  18.]
```

In [11]:
```
plt.plot(x_final,y_final)
plt.show()
```



In [ ]:
```

```