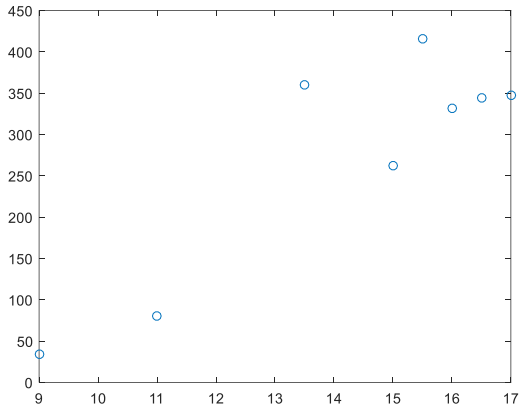
IT3030 Biostatistics Quiz#8 2019.06.11 ID:_____ Name:_____
Given the same table in slide #25 in Week16.pdf.
1. Graph the (x,y) scatter plot for the bear head length (x3) vs the body weight (y).
Answer:

```
>> x3=[11 16.5 15.5 17 15 13.5 16 9];
>> y=[80 344 416 348 262 360 332 34];
>> plot(x3,y,'o')
>>
```



2. (a) Determine the value for m and b in a polynomial y(x3) = m*x3 + b of degree 1, to best-fit the plot in problem 1. (b) Determine the bear weight, for a bear of head length x3=12 based on your linear regression.
Answer:
(a)

```
>> polyfit(x3,y,1)
ans =      43.4931 -345.0581
```

m = 43.4931, b = -345.0581

(b)

```
>> polyval(polyfit(x3,y,1), 12)
```

ans = 176.8589

3. Given that y = b1 + b2*x2 + b6*x6, determine the value for b1, b2 and b6.
Answer:

```
>> x2=[19 55 81 115 56 51 68 8]';
>> x6=[53 67.5 72 72 73.5 68.5 73 37]';
>> y=[80 344 416 348 262 360 332 34]';
>> A=[ones(size(x2)) x2 x6];
>> b=regress(y,A)
b =
  -266.3891
     1.0968
     7.3770
>>
```

b1 = -266.3891, b2 = 1.0968, b6 = 7.3770