

Exempel 5.4

```
clear all, close all
format short, format compact
```

```
p = [55.7 57.7 59.3 62.6 65.6]';
l = [17*60+28 18*60 18*60+31 19*60+56 22*60+54]';
```

```
x = 55:68;
```

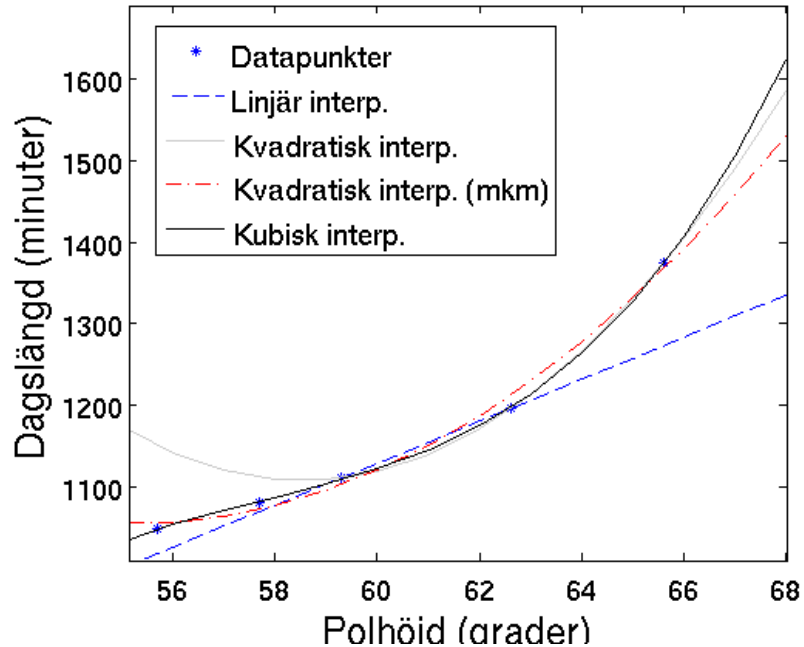
```
k2 = polyfit(p(3:5),l(3:5),2);
l2 = polyval(k2,x);
```

```
% Minsta kvadratmetoden
k2m = polyfit(p,l,2);
l2m = polyval(k2m,x);
```

```
k1 = polyfit(p(3:4),l(3:4),1);
l1 = polyval(k1,x);
```

```
k3 = polyfit(p,l,3);
```

```
l3 = polyval(k3,x);
```



```
%>> polyfit(p,l,4)
```

```
%
```

```
% Warning: Polynomial is badly conditioned. Add points with distinct X
% values, reduce the degree of the polynomial, or try centring
% and scaling as described in HELP POLYFIT
%
```

```
p = plot(p,l,'*');
legend(p, 'Datapunkter', 'Linjär interp.', 'Kvadratisk interp.', ...
       'Kvadratisk interp. (mkm)', 'Kubisk interp.')
xlabel('Polhöjd (grader)')
ylabel('Dagslängd (minuter)')
```

```
t1 = polyval(k1,61.7)
t2 = polyval(k2,61.7)
t2m = polyval(k2m,61.7)
t3 = polyval(k3,61.7)
```

```
>> dag
t1 =
    1.1728e+03
t2 =
    1.1613e+03
t2m =
    1.1757e+03
t3 =
    1.1649e+03
```