

Polynomial Regression

<alt>A to start

<alt>R to rerun regression

<alt>E to restart after editing the data

| # | X | Y |
|-------|---|---|
| ----- | | |

DO NOT WRITE BELOW THIS LINE !!!!!

```

{home}/wgrm
/wgc11~/wcs7~
/xnPlease enter number of points (3-75) ~G11~
/xiG11>75~{pgup}/reG11~/xgB103~
/xiG11<3~{pgup}/reG11~/xgB103~
{goto}A11~/dfA11..A86~1~~G11~
{end}{down}{down}' ~
{home}{goto}B11~
/xnEnter X ~{right}
/xnEnter Y ~{left}{left}
/rncCOUNTER~{bs}~/xiCOUNTER<+G11~{down}{right}/xgB109~
/rndCOUNTER~{down}
/m~{right}{right}{right}{right}{right}{right}{right}~
{goto}I11~/c{end}{right}~{down}.{end}{down}{up}~
{calc}
{goto}H91~/cG11~~{right}/c$G$88~~{edit}{calc}~
{right}/c$I$88~~{edit}{calc}~{right}/c$J$88~~{edit}{calc}~
{right}/c$K$88~~{edit}{calc}~{right}/c$H$88~~{edit}{calc}~
{down}/c$P$88~~{edit}{calc}~{left}/c$L$88~~{edit}{calc}~
{down}/c$M$88~~{edit}{calc}~{right}/c$Q$88~~{edit}{calc}~
{down}/c$R$88~~{edit}{calc}~{left}/c$N$88~~{edit}{calc}~
{down}/c$O$88~~{edit}{calc}~{right}/c$S$88~~{edit}{calc}~
{home}/cI91..L91~H92~/cI92..L92~H93~
/cI93..L93~H94~/cI94..L94~H95~
/rel12..S85~
{calc}/xgl101~

/reG11..G18~/reD11..E86~/reA14..A86~
{goto}A11~/df{bs}.{right}{end}{down}{left}~1~1~75~{end}{down}/c~G11~
/xiG11<3~/xiNeed 3 data points. Hit <ENTER>~A130~/xq~
{goto}B11~{end}{down}{down}{left}0~/c~A135~' ~
/m~{right}{right}{right}{right}{right}{right}{right}{right}~
/xgB114~

```

| | |
|---|----|
| 0 | 1 |
| | 2 |
| | 3 |
| | 4 |
| | 0 |
| | 10 |

0
0
0
0
0
0
0
0
0
0
0
0

Y calc.



0
0
0
0

Sheet1

+B159/A90~
{edit}{calc}~/xr~

(C91*B155-C92*B158+C93*B159)/A90~
{edit}{calc}~/xr~

(-D91*(C92*B152-C93*B154+C94*B155)+D92*(C91*B152-C93*B157+C94*B158)-D93*(C91*B154-C92*B157+C94*B159)+D94*(C91*B155-C92*B158+C93*B159))/A90~
{edit}{calc}~/xr~

@sum(D159..D163)/A90~
{edit}{calc}~/xr~

By: D. Graiver (Apr. 1985)

| Dev. | Coefficients | X2 |
|-------|--------------|----|
| <hr/> | | |
| | n = | 0 |
| | Det. = | |
| | A0 = | |
| | A1 = | |
| | A2 = | |
| | A3 = | |
| | A4 = | |

0 0 0

Sheet1

/cH91..M95~A91~/reT11..V86~
1 /cH102~A90~{calc}
{home}{goto}G12~
/xml105~

1st degree

Y=a+bX

/reG12..G17~/reD11..E85~

/xcD150~

/xiG12=0~/xq~

/c~A90~{down}

/cM91..M92~A91~{calc}

/xcD150~{down}

/cA91..A92~B91~

/cH91..H92~A91~{calc}

/xcD150~{down}

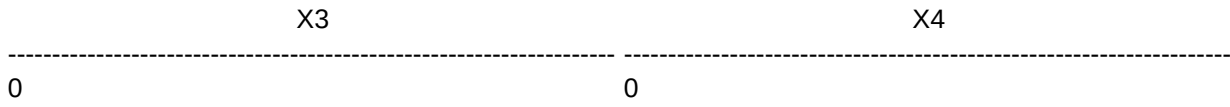
{goto}D11~/cD135..E135~.{left}{end}{down}{right}~

/rff3~{right}{end}{down}~

/cB135~A135~/xgl101~

0
0
0
0

)-



0 0

2nd degree

Y=a+bX+cX^2
 /reG12..G17~/reD11..E85~
 /xcD153~
 /xiG12=0~/xq~
 /c~A90~{down}
 /cM91..M93~A91~{calc}
 /xcD153~{down}
 /cA91..A93~B91~
 /cH91..H93~A91~{calc}
 /xcD153~{down}
 /cB91..B93~C91~
 /cI91..I93~B91~{calc}
 /xcD153~{down}
 {goto}D11~/cD136..E136~.{left}{end}{down}{right}~
 /rff3~{right}{end}{down}~
 /cB135~A135~/xgl101~

3rd degree

Y=a+bX+cX^2+dX^3
 /reG12..G17~/reD11..E85~
 /xcD156~
 /xiG12=0~/xq~
 /c~A90~{down}
 /cM91..M94~A91~{calc}
 /xcD156~{down}
 /cA91..A94~B91~
 /cH91..H94~A91~{calc}
 /xcD156~{down}
 /cB91..B94~C91~
 /cI91..I94~B91~{calc}
 /xcD156~{down}
 /cC91..C94~D91~
 /cJ91..J94~C91~{calc}
 /xcD156~{down}
 {goto}D11~/cD137..E137~.{left}{end}{down}{right}~
 /rff3~{right}{end}{down}~
 /cB135~A135~/xgl101~

X5

0

0

4th degree

$$Y=a+bX+cX^2+dX^3+eX^4$$

/reG12..G17~/reD11..E85~

/xcD164~

/xiG12=0~/xq~

/c~A90~{down}

/cM91..M95~A91~{calc}

/xcD164~{down}

/cA91..A95~B91~

/cH91..H95~A91~{calc}

/xcD164~{down}

/cB91..B95~C91~

/cI91..I95~B91~{calc}

/xcD164~{down}

/cC91..C95~D91~

/cJ91..J95~C91~{calc}

/xcD164~{down}

/cD91..D95~E91~

/cK91..K95~D91~{calc}

/xcD164~{down}

{goto}D11~/cD138..E138~.{left}{end}{down}{right}~

/rff3~{right}{end}{down}~

/cB135~A135~/xgl101~

| | X6 | | X7 | X8 | XY |
|---|----|--|----|----|----|
| 0 | | | | 0 | 0 |

0

0

0 0

Sheet1

Plot

Plot regression data

```
/xiA135=0~/xlFirst run a regression. Hit <ENTER>~A141~/xgl103~  
{goto}B11~/c.{right}{right}{end}{down}~T11~  
/xnStart plotting at X= ~B143~  
/xnEnd plotting at X= ~B144~  
{goto}T1~{goto}T11~{end}{down}{down}  
/cB143~/df{bs}.{end}{down}{up}~+B143~(B144-B143)/(75-G11)~+B144~  
{right}{right}/cV11~.{end}{down}{up}~  
/dsdT11..V86~pT11~a~g  
{calc}  
{home}/grgtxxT11..T86~  
aU11..U86~bV11..V86~  
ofasblqgbcsxmIB143~uB144~qqv
```

Quit

Return to READY mode

```
/xq~
```

| X2Y | X3Y | X4Y | X plot | Y plot | Yc Plot |
|-----|-----|-----|--------|--------|---------|
| 0 | 0 | 0 | | | |

0 0 0