

Week	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Views	102 365	38 716	21 617	24 305	9 321	14 148	2 103	8 285	5 098	3 777
Week	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th
Views	831	1007	834	34	378	204	6	42	54	31

- Press **MENU** 2 **STAT** to display the List Editor screen.
- Enter the x-coordinates in the first column.
- Press **EXE** after each number to move to the next cell.

	List 1	List 2	List 3	List 4
SUB				
1	1			
2	2			
3	3			
4	4			

4

TOOL
EDIT
DELETE
DEL-ALL
INSERT
>

	List 1	List 2	List 3	List 4
SUB				
1	1	102365		
2	2	38716		
3	3	21617		
4	4	24305		

24305

GRAPH CALC TEST INTR DIST

StatGraph1	
Graph Type	: Scatter
XList	: List1
YList	: List2
Frequency	: 1
Mark Type	: <input type="checkbox"/>
Color Link	: Off
GRAPH1 GRAPH2 GRAPH3	

Chapter 7 / Example 14

Exponential modelling

To calculate the equation of the exponential regression line

Press **F1** CALC and press **F6** \triangleright **F3** EXP **F2** ab^x .

The exponential curve is given by the equation

$$y = 129\,000 \times 0.642^x.$$

The coefficient of determination is $R^2 = 0.888$, which shows strong exponential association.

```
ExpReg(a·b^x)
a =129168.941
b =0.64232674
r =-0.9423383
r^2=0.88800159
MSe=0.91302818
y=a·b^x
```

COPY **DRAW**

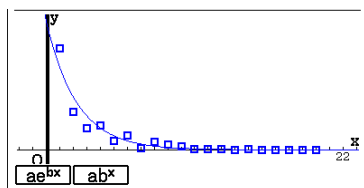
Press **F5** COPY.

The GDC displays the equation entry screen.

Press **SHIFT** **9** PASTE and press **EXE** to paste the function in Y2.

Press **F6** DRAW.

The GDC displays the scatter diagram and the regression line.



Press **MENU** 5 **GRAPH** **II**

Press **F1** SELECT to select Y1.

Type 1000 to enter Y2 = 1000.

```
Graph Func :Y=
Y1=129168.941155[—]
Y2=1000[—]
Y3:[—]
Y4:[—]
Y5:[—]
Y6:[—]
[SELECT] [DELETE] [TYPE] [TOOL] [MODIFY] [DRAW]
```

To see the intersection, you will need to change the window.

Press **SHIFT** **F3** V-WIN.

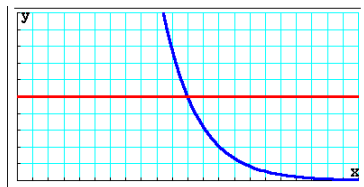
Set the axes to show $0 \leq x \leq 22$ and $0 \leq y \leq 2000$ with a scale of 200, leaving the remaining items the same.

Press **EXIT** when you have finished.

```
View Window
Xmin : 0
max : 22
scale: 1
dot : 0.05820105
Ymin : 0
max : 2000
[INITIAL] [TRIG] [STANDARD] [V-MEM] [SQUARE]
```

Press **F6** DRAW to display the graph screen.

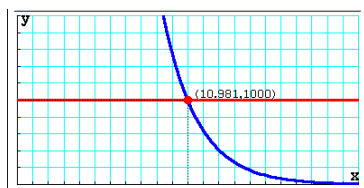
The GDC displays the two functions in a suitable window.



To find the intersection press **F5** G-Solv **F5** Intersect.

Press **EXE** to display the coordinates.

Press **EXIT** to leave G-Solv mode and **F6** DRAW to display the graph screen again.



Chapter 7 / **Example 14**

Exponential modelling

The GDC displays the intersection of the two straight lines at the point $(10.98, 1000)$.

$x = 10.98$ weeks = 76.9 days.

They have to start advertising their video again after 77 days.

