

Business Intelligence

Dan Appleman
danappleman.com
@danappleman



pluralsight 
hardcore dev and IT training



There's value in that data
somewhere...

...isn't there?

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

BI

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

BI

Reporting

Analytics

Data mining

Process mining

Business performance

Benchmarking

Competitive Analysis

Big data

Data warehousing

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

Apple vs Samsung



**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

What's Going On?

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

U.S. Historical iPod Touch Sales			
		iPod Touch Sales	iPod Touch Revenue
Year	Quarter		
2007	1		
	2		
	3	172	57
	4	1764	523
2008	1	738	242
	2	825	254
	3	1204	317
	4	3181	737
2009	1	1631	392
	2	1942	438
	3	2100	457
	4	4961	1001
2010	1	2647	558
	2	2441	493
	3	2501	496
	4	5689	1263
2011	1	2293	547
	2	1881	420
	3	1588	342
	4	5175	993
2012	1	2028	411
	2	1791	354

Unit sales in thousands

Revenue in millions

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

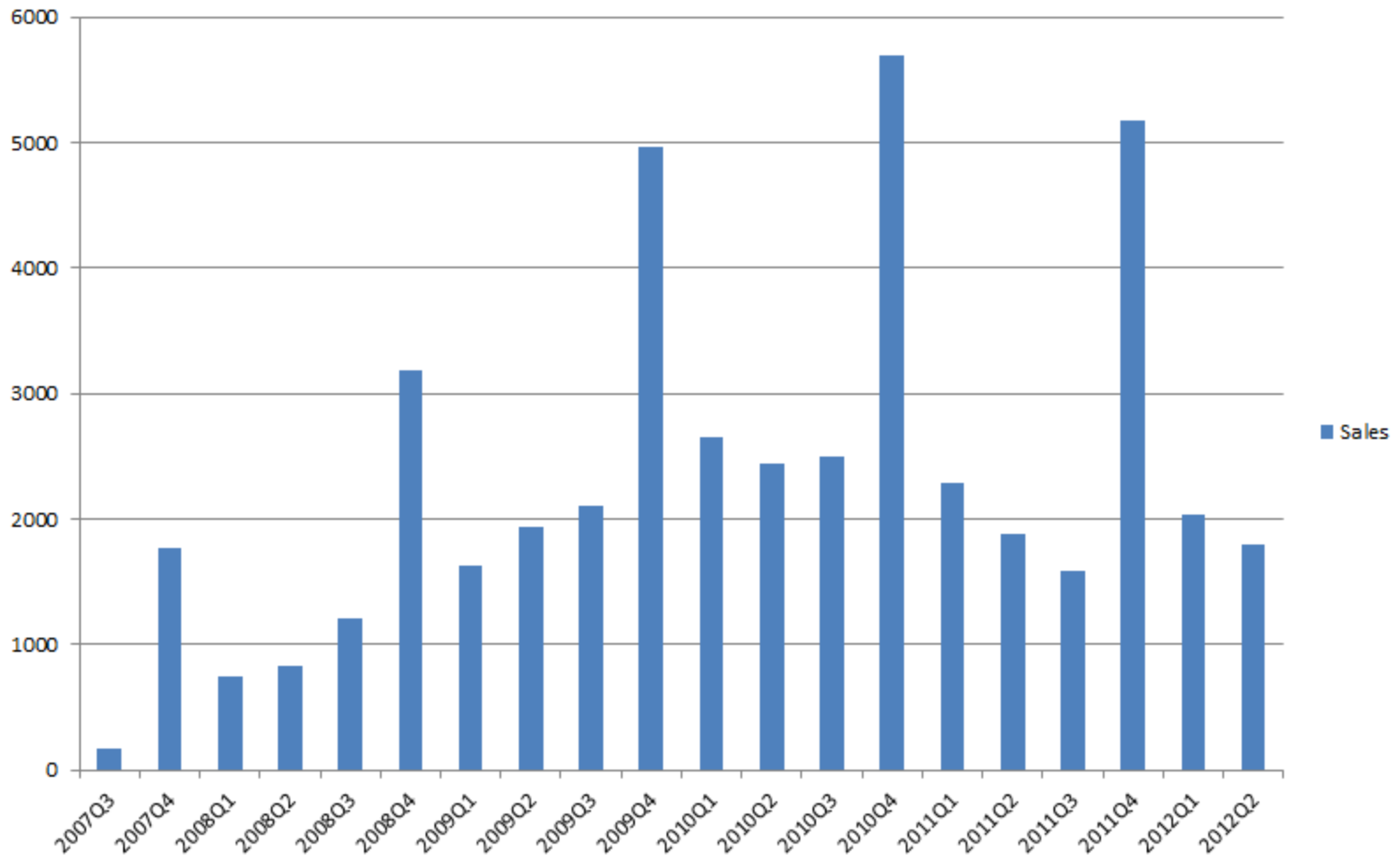
What Should We Do?

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

iPod Touch Unit Sales

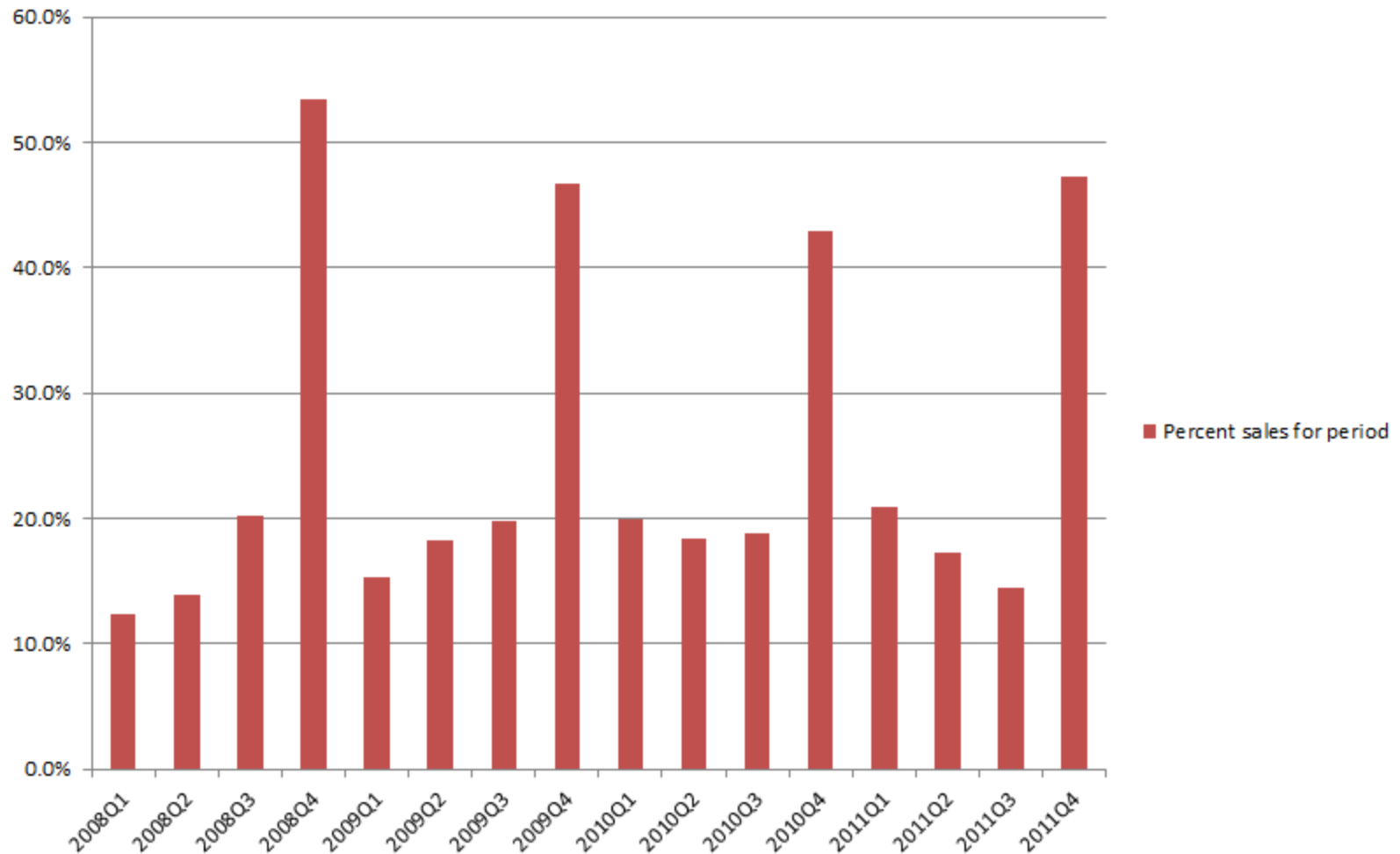


in This Space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

iPod Touch Unit Sales



in This Space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

What's Going On?

What Should We Do?

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

What Happens Next?

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

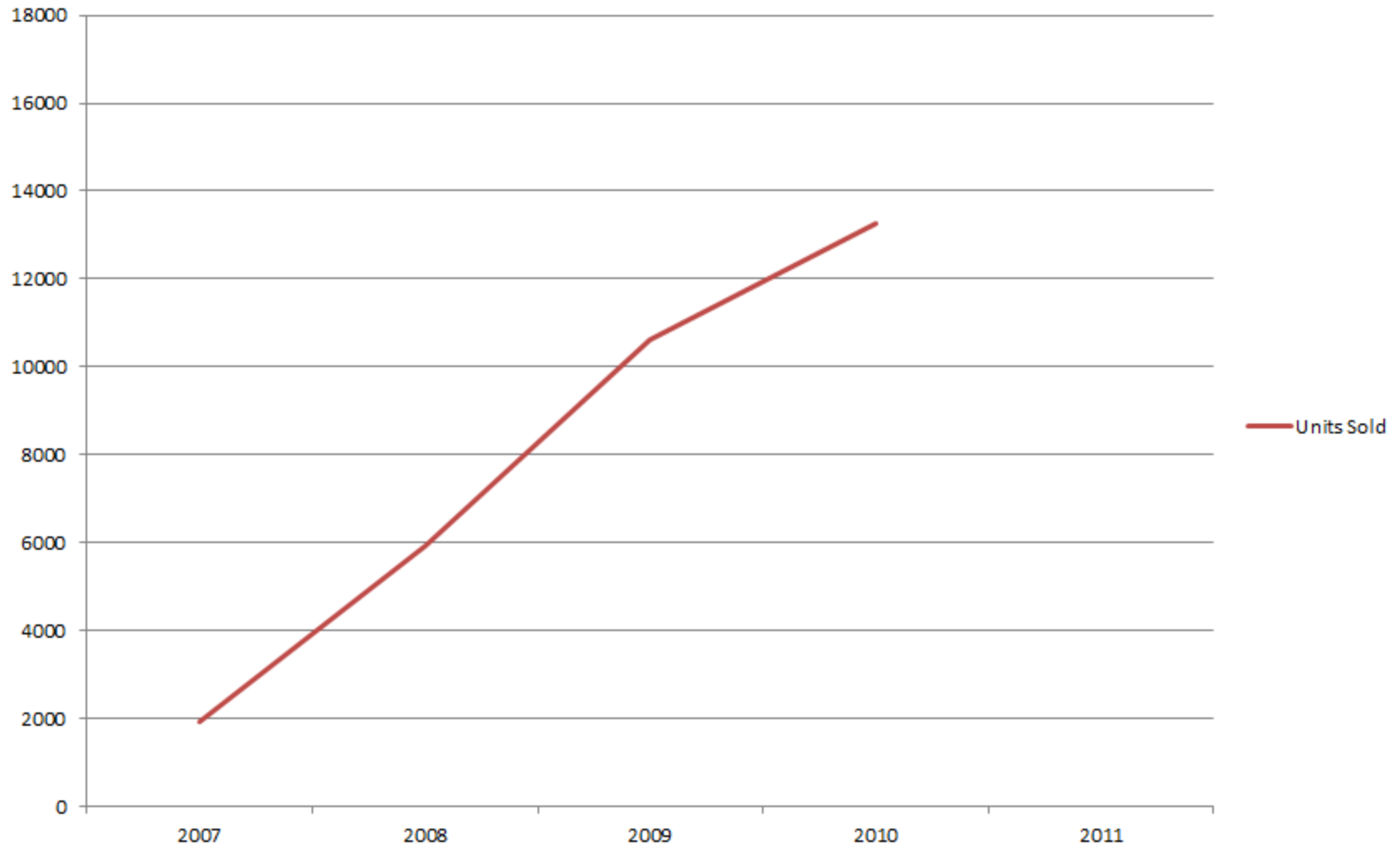


**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

iPod Touch Units Sold



In This Space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

iPod Touch Units Sold

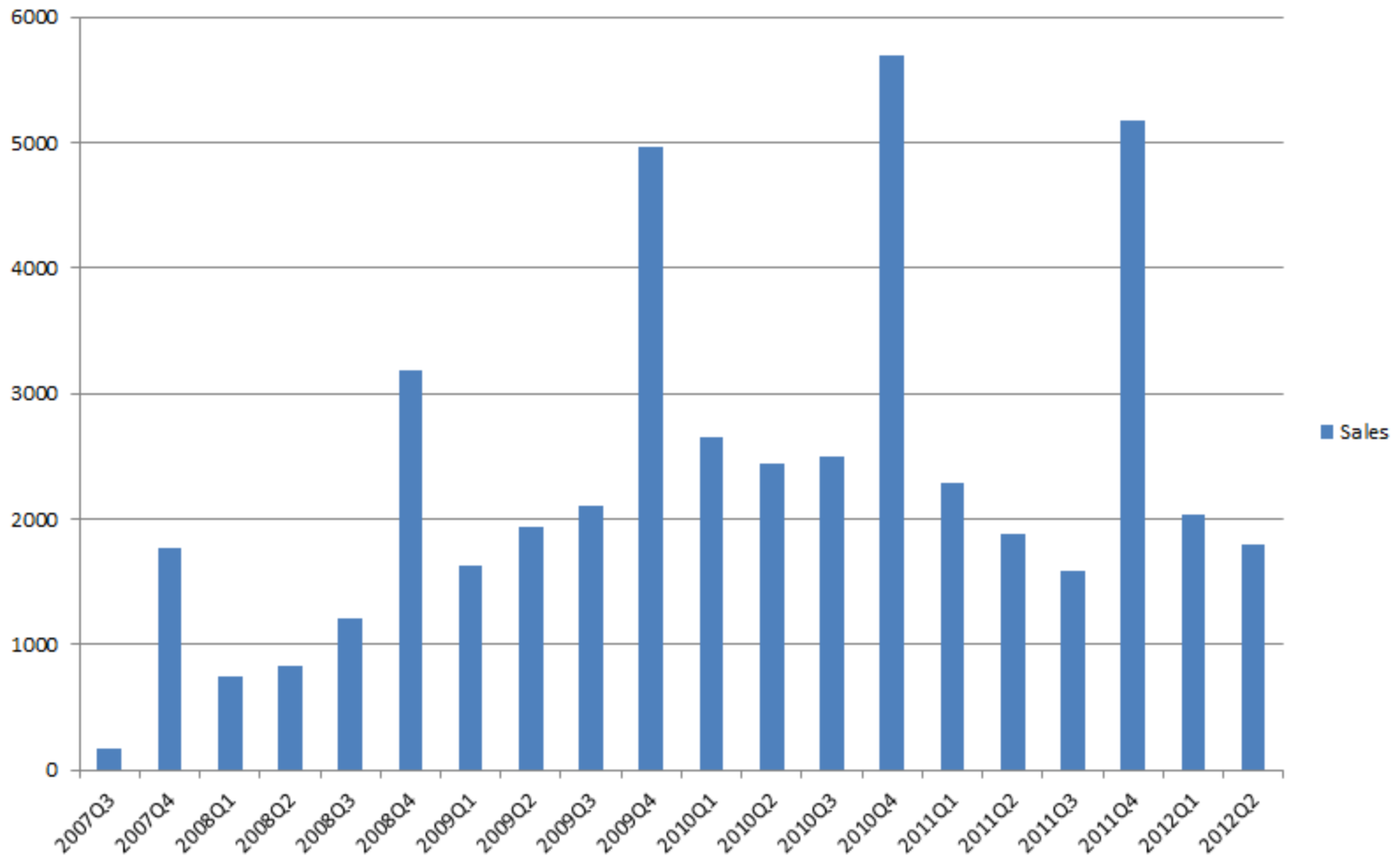


In This Space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

iPod Touch Unit Sales

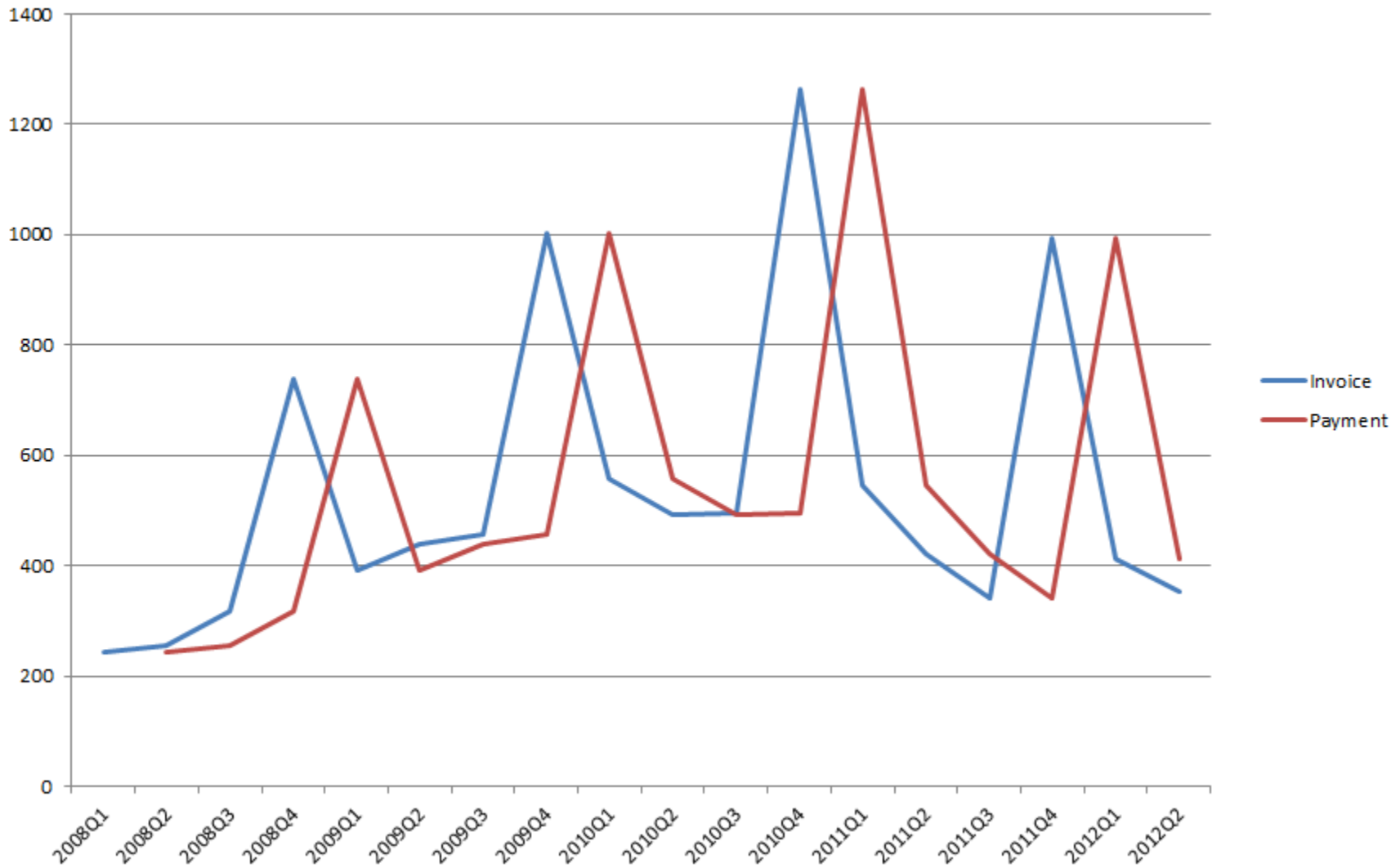


in This Space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

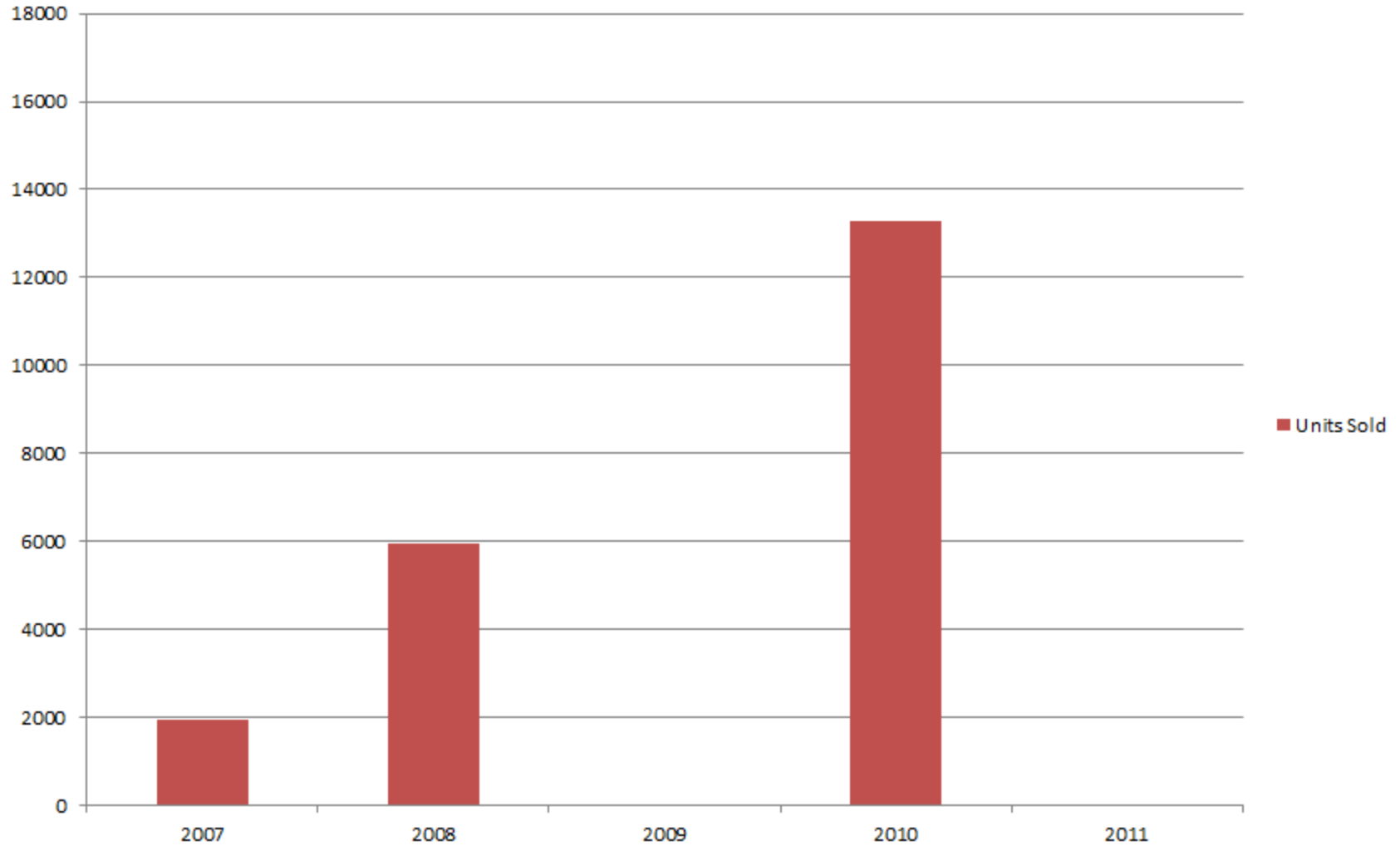
Causation



(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

iPod Touch Units Sold



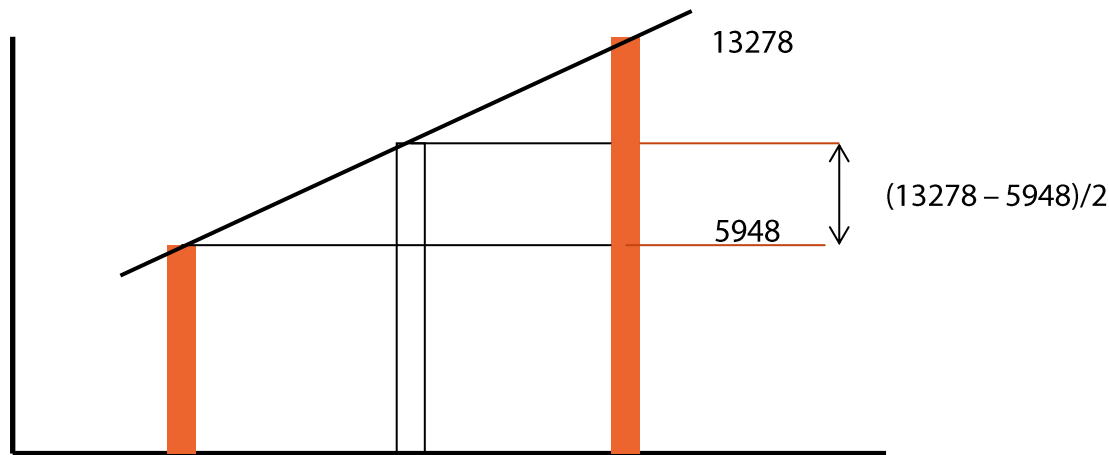
in this space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

Interpolation

- 2008 sales = 5948K
- 2010 sales = 13278K
- Interpolated 2009 sales = $(13278 - 5948)/2 + 5948 = 9613K$
- Actual 2009 sales = 10634K

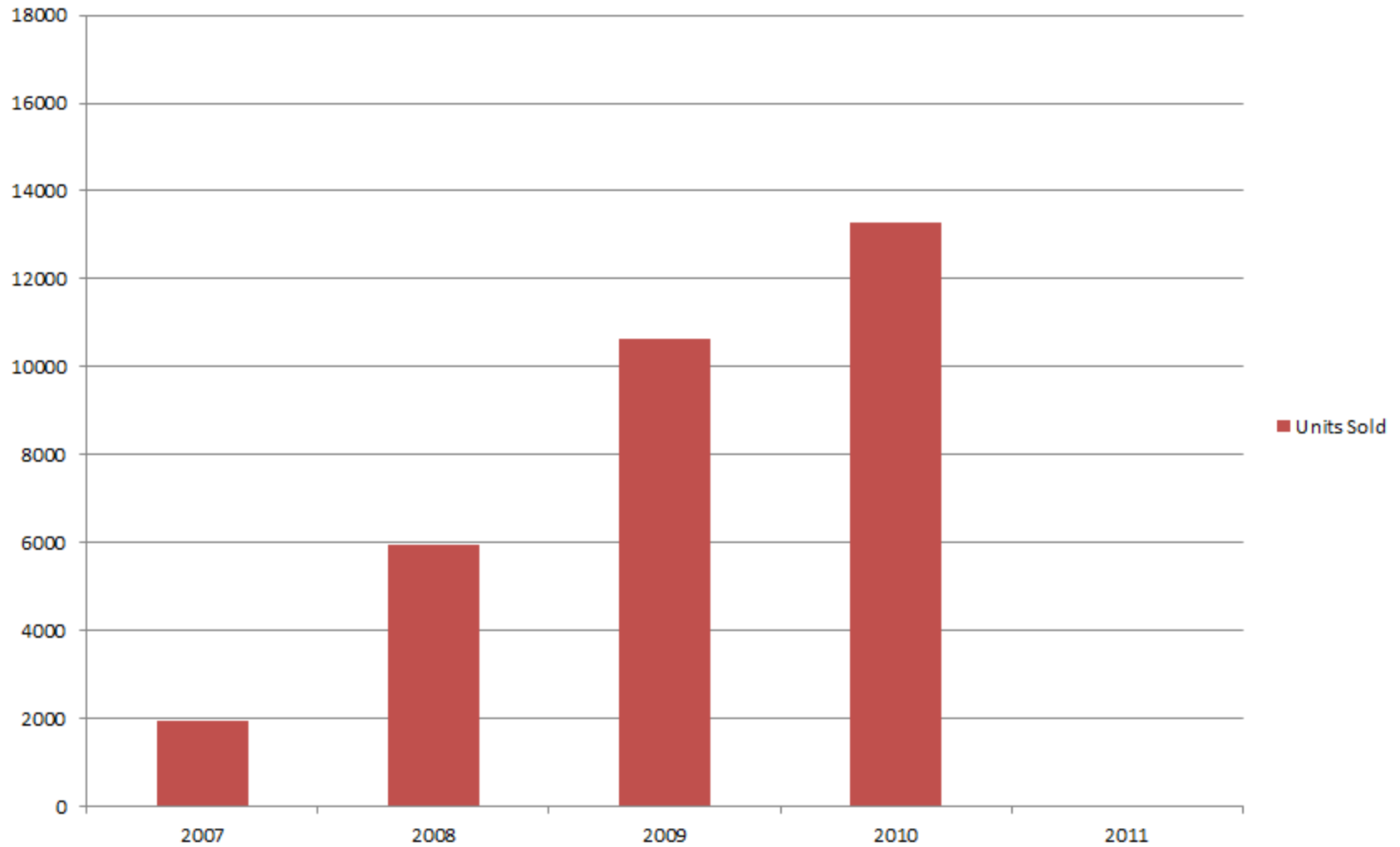


**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

iPod Touch Units Sold



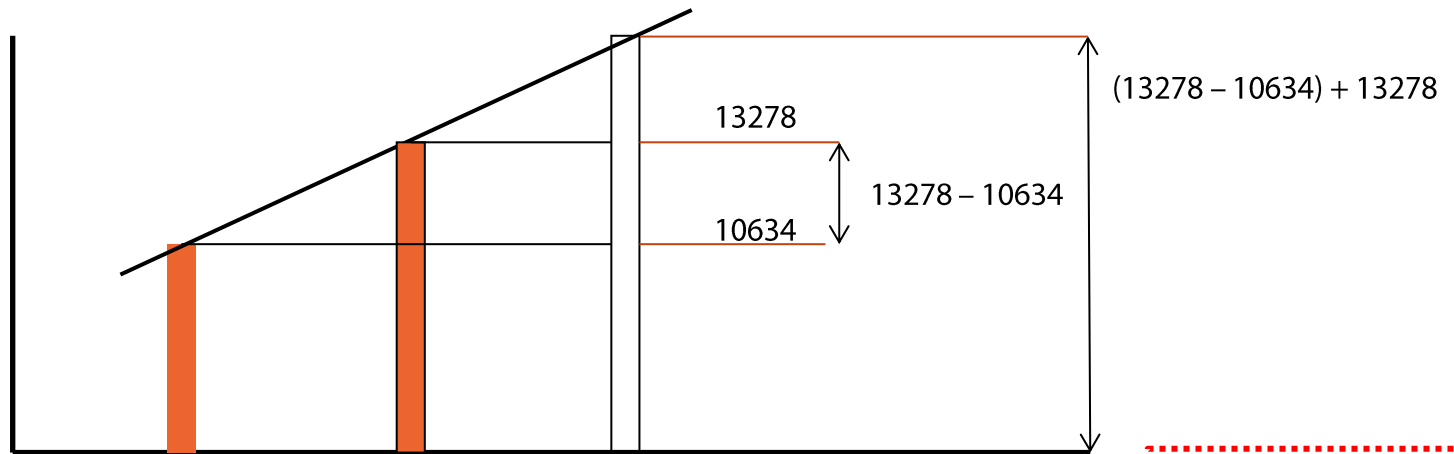
in this space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

Extrapolation

- 2009 sales = 10634K
- 2010 sales = 13278K
- Interpolated 2011 sales = $(13278 - 10634) + 13278 = 15922K$
- Actual 2011 sales = 10937K



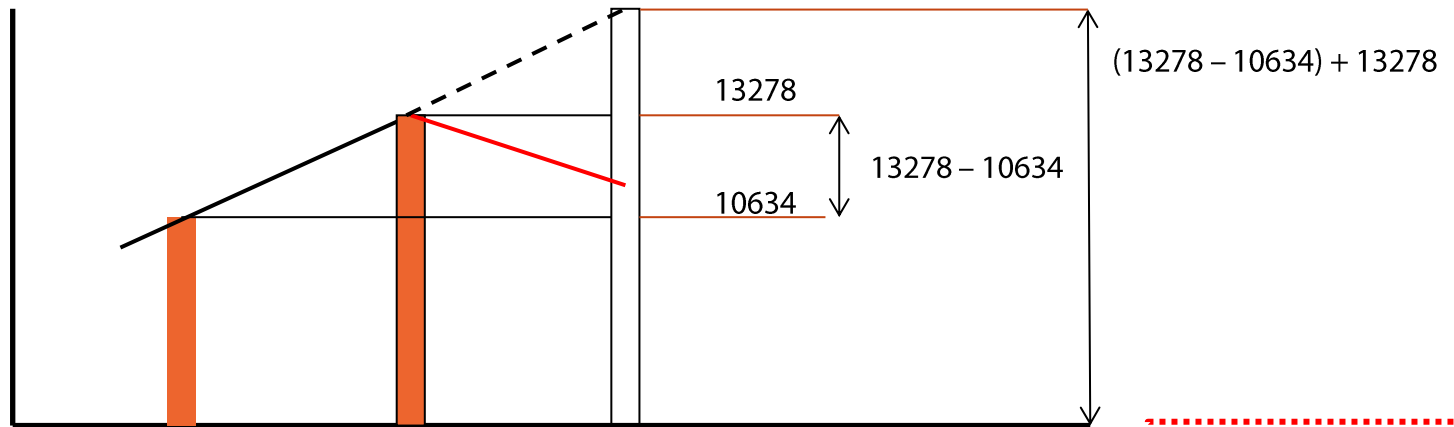
**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

Extrapolation

- 2009 sales = 10634K
- 2010 sales = 13278K
- Interpolated 2011 sales = $(13278 - 10634) + 13278 = 15922K$
- Actual 2011 sales = 10937K



**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

Clearance

Overstock

\$ALE!

SALE

**1/2
OFF!**

**BIG
SALE**

Anything

uring

editing)

Note: Warning will not appear
during Slide Show view.

Neatness Counts



In This Space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

Extrapolation

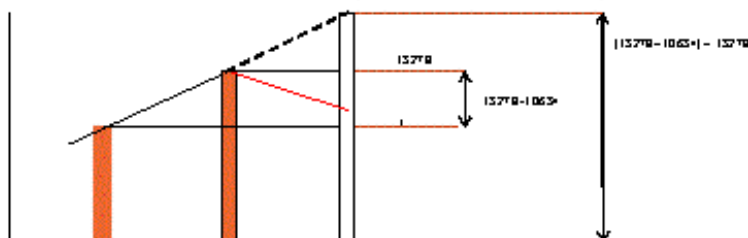
Dan Appleman
Math 1A
2nd Period

Excellent work!

A

Extrapolation involves trying to predict a data point that is outside of the range of existing data.

Let's say Apple had suppressed the sales data from 2011. If you were to extrapolate the sales of iPod touch from 2009 to 2011 you might just sketch it out, or you might do some simple math. A data scientist might use more complex math to fit an exponential or quadratic curve onto the existing data. But in any of these cases, the results would be disastrously wrong.



Extrapolation

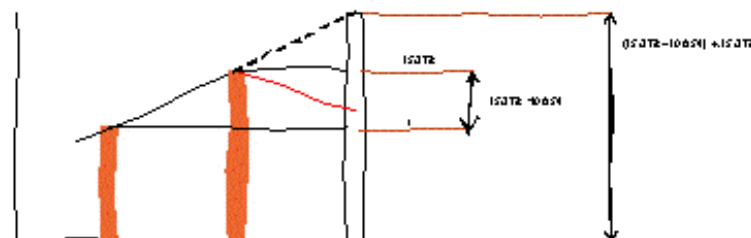
Dan Appleman
Math 1A
2nd Period

SEE ME AFTER CLASS

C

Extrapolation involves trying to predict a data point that is outside of the range of existing data.

Let's say Apple had suppressed the sales data from 2011. If you were to extrapolate the sales of iPod touch from 2009 to 2011 you might just sketch it out, or you might do some simple math. A data scientist might use more complex math to fit an exponential or quadratic curve onto the existing data. But in any of these cases, the results would be disastrously wrong.



Do Not Place Anything in This Space

(Add watermark during editing)

Note: Warning will not appear during Slide Show view.

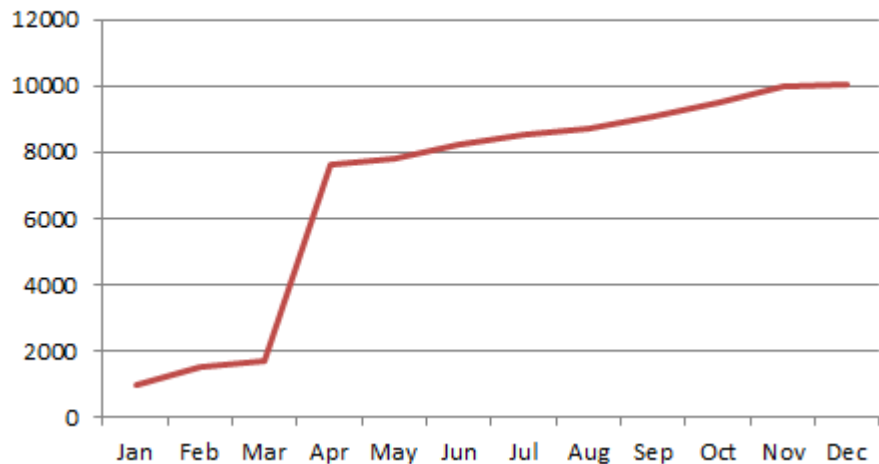
Is Our Social Media Effective?

**Do Not Place Anything
in This Space**

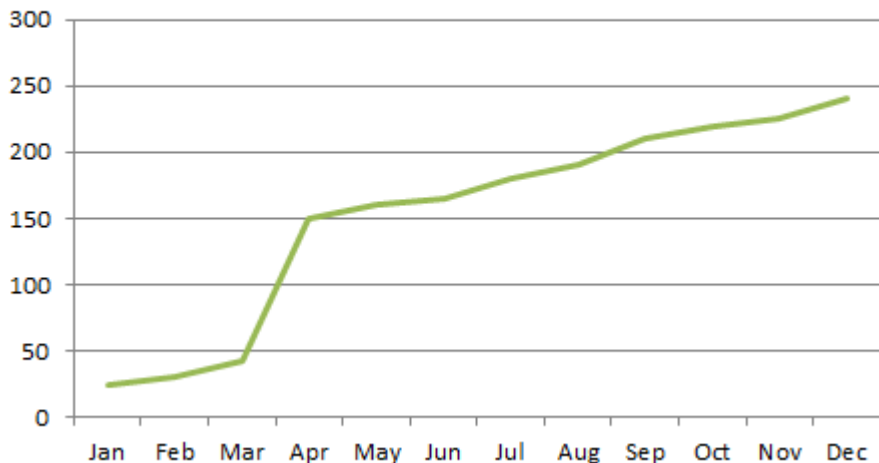
(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

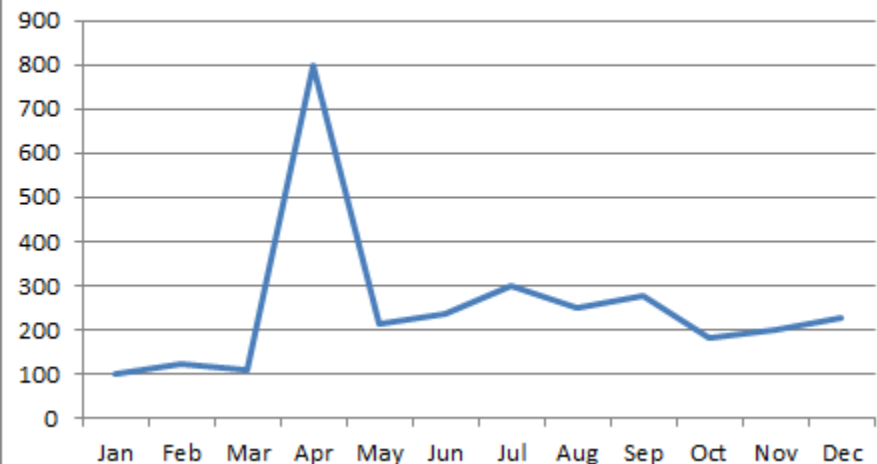
Facebook Likes



Linkedin Connects



Tweets



**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.

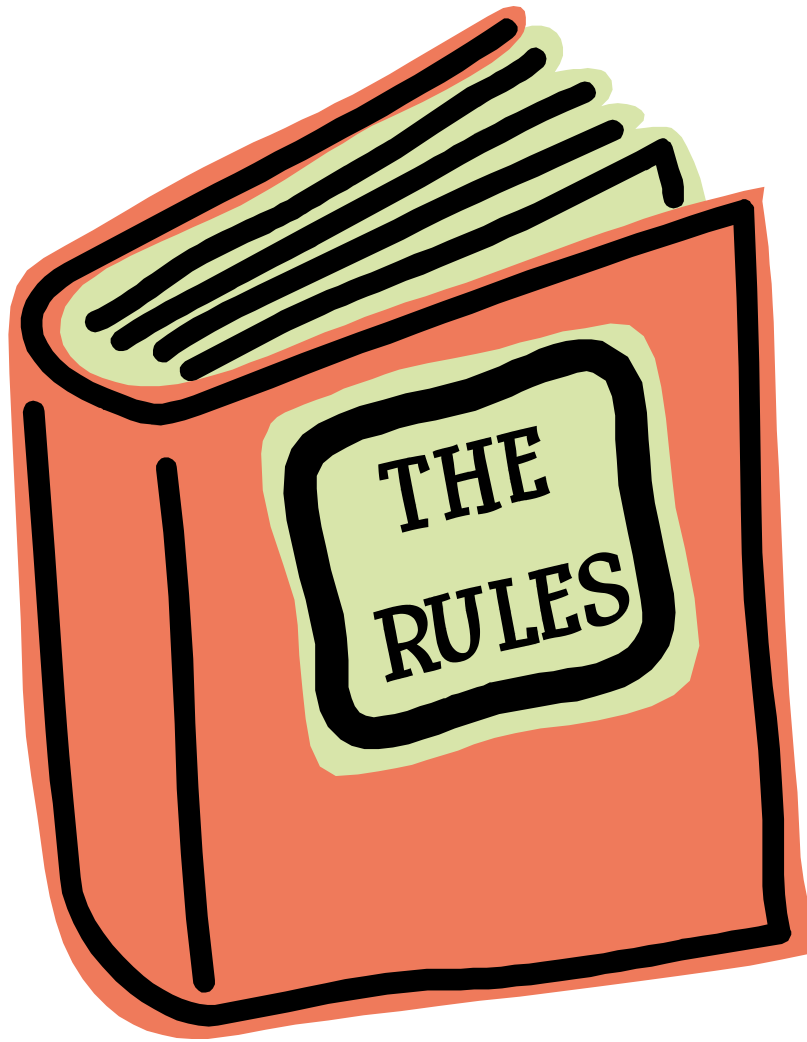
Social Network Response



**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.



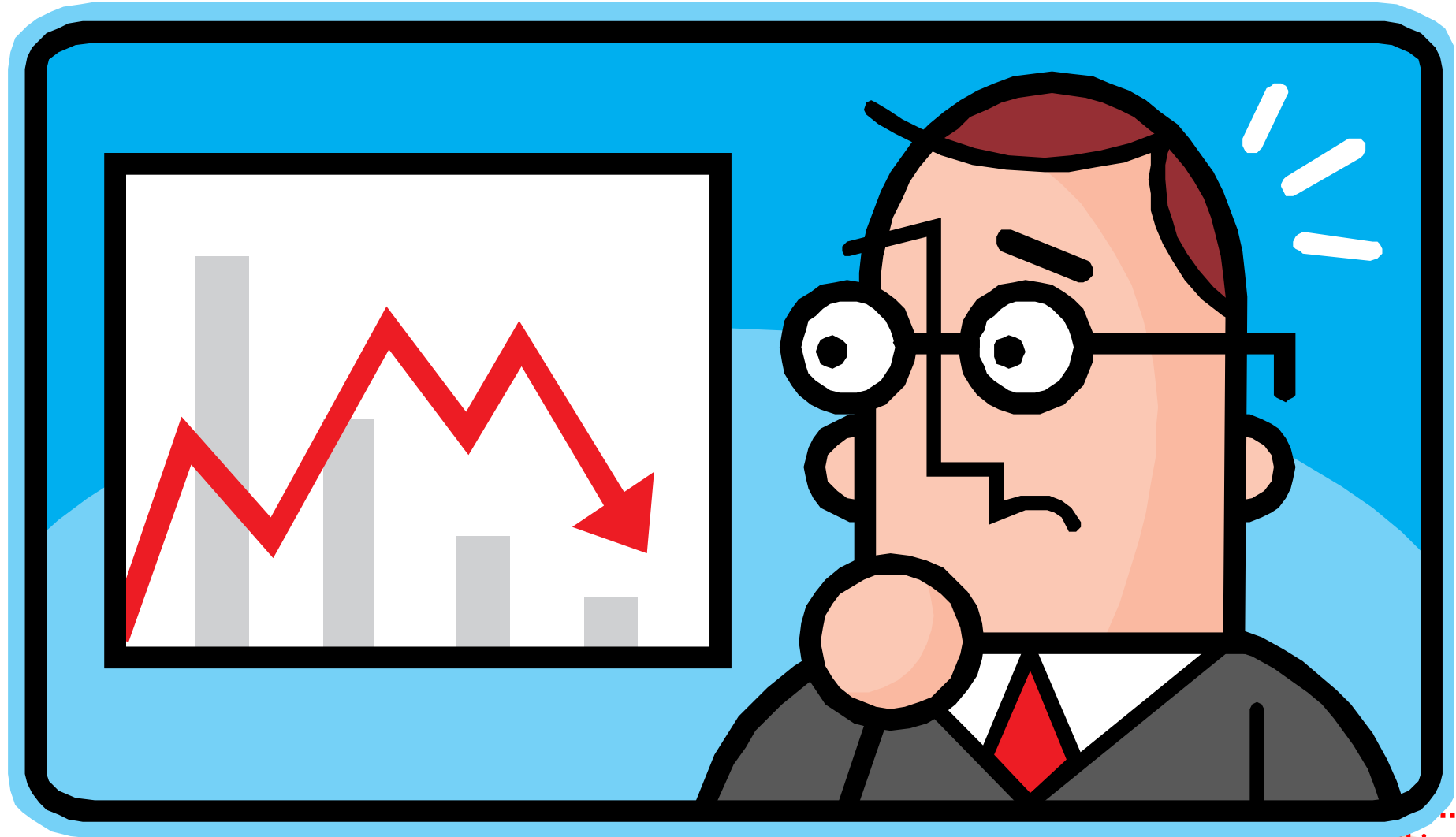
1. Always start with the story you want to tell or the question you want to ask
2. Have the contrast address the story or question
3. Don't forget the data
4. Don't make people think

**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.





**Do Not Place Anything
in This Space**

(Add watermark during
editing)

Note: Warning will not appear
during Slide Show view.