Extracting Insights from the Line Chart

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Overview

Secondary axis

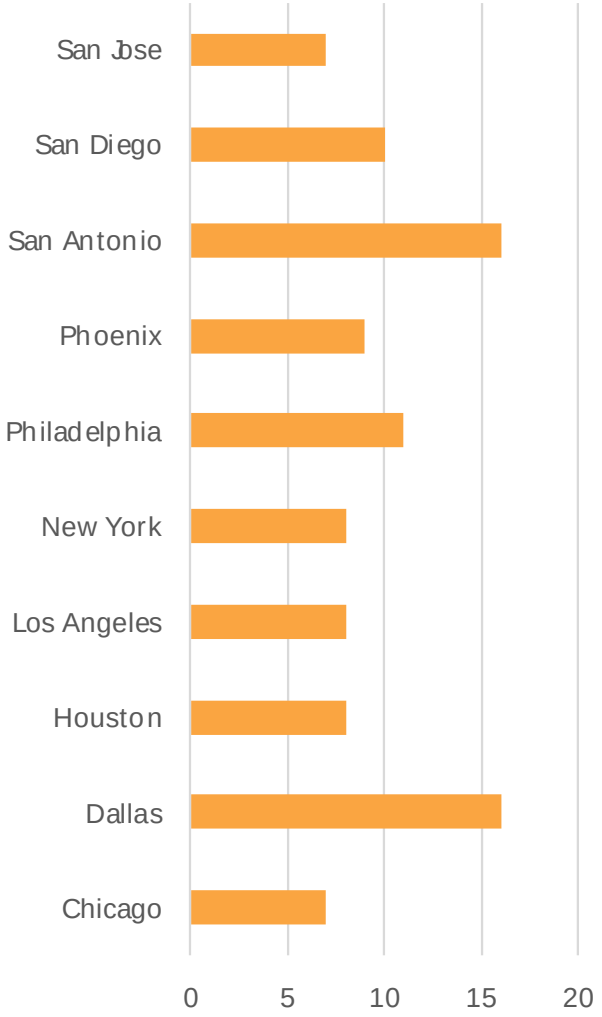
Combo chart

Trendlines

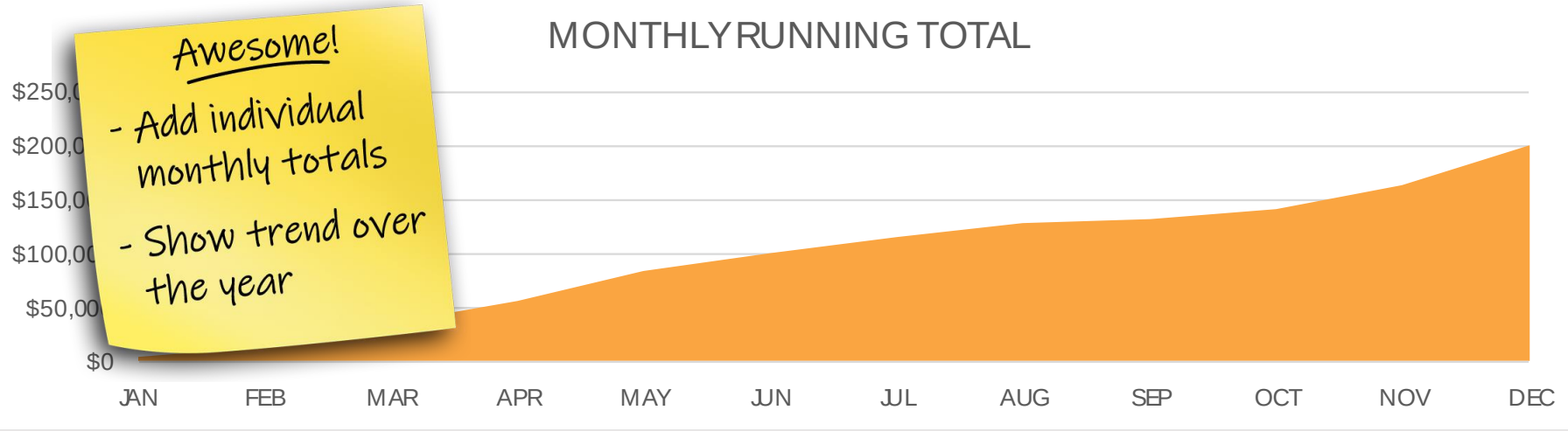
- Linear
- Moving average
- Logarithmic
- Polynomial
- Power
- Exponential

SALES REPORT

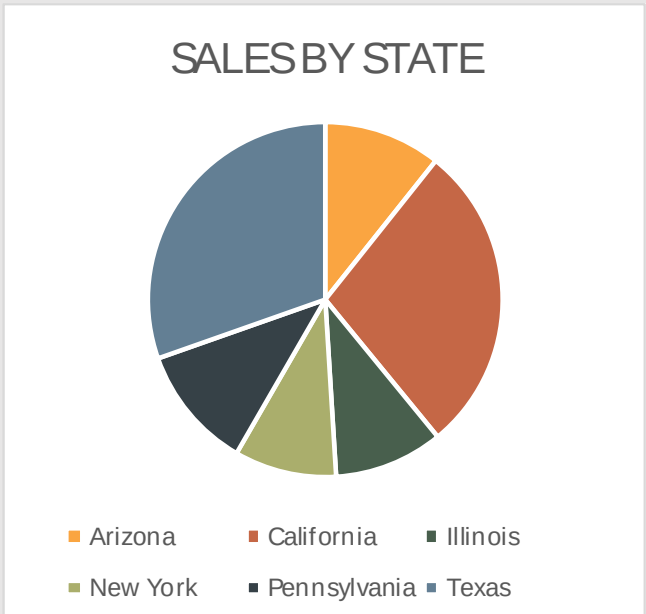
STORES IN CITY



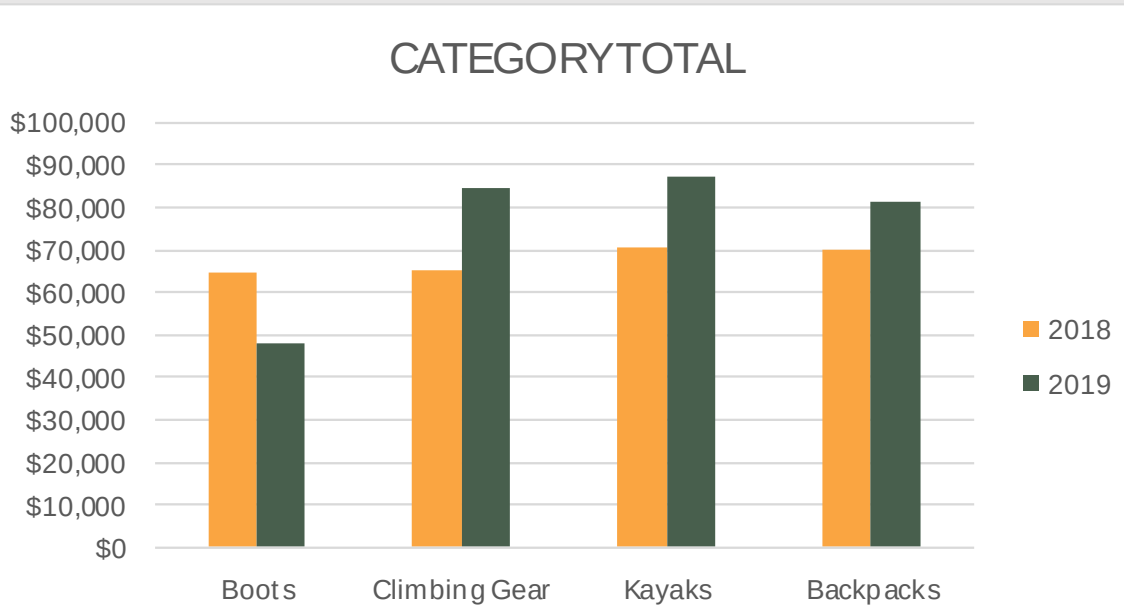
MONTHLY RUNNING TOTAL



SALES BY STATE



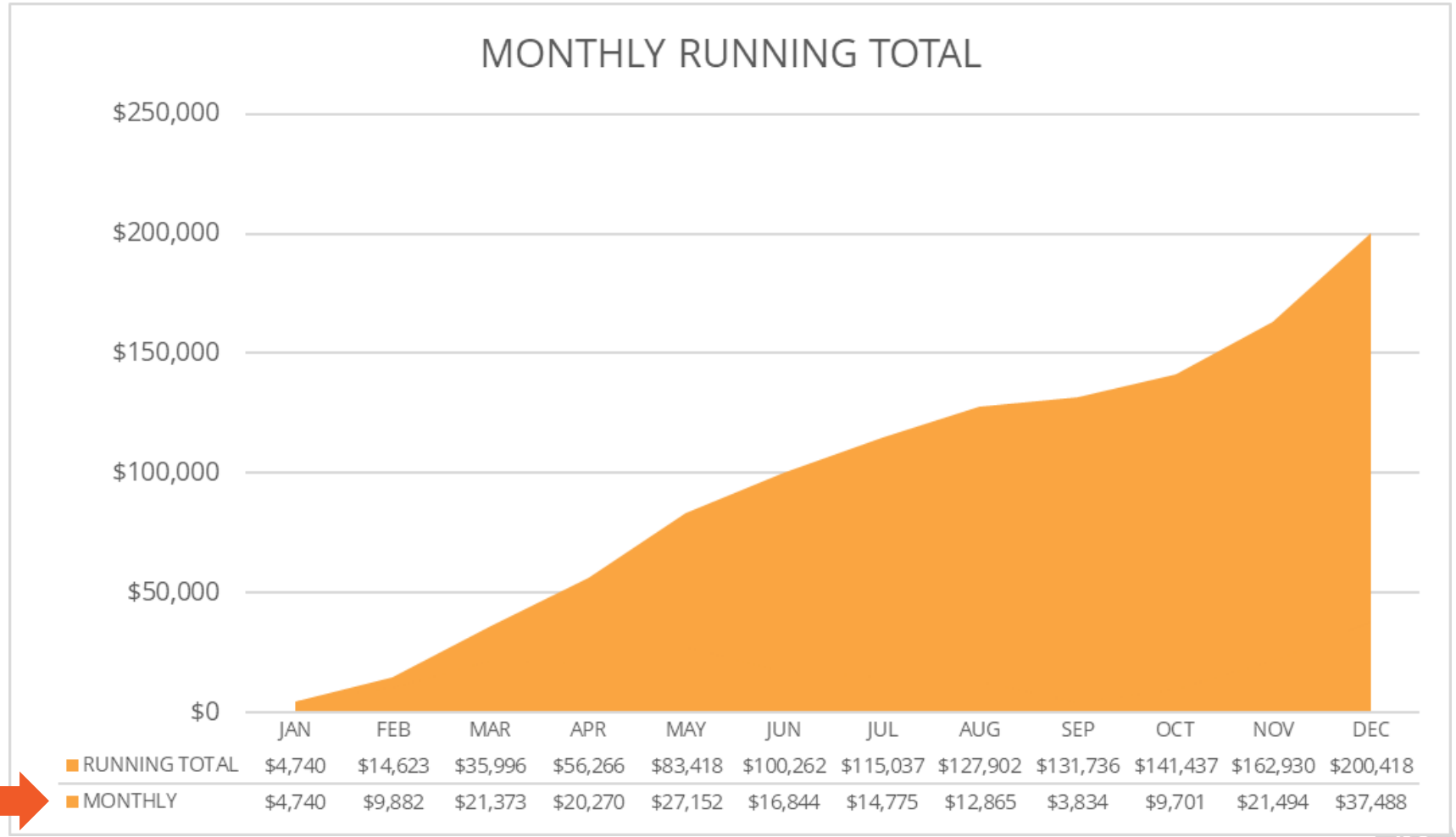
CATEGORY TOTAL



Dashboard Review

Awesome!

- Add individual monthly totals
- Show trend over the year



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
RUNNING TOTAL	$4,740	$14,623	$35,996	$56,266	$83,418	$100,262	$115,037	$127,902	$131,736	$141,437	$162,930	$200,418
MONTHLY	$4,740	$9,882	$21,373	$20,270	$27,152	$16,844	$14,775	$12,865	$3,834	$9,701	$21,494	$37,488

Dashboard Review

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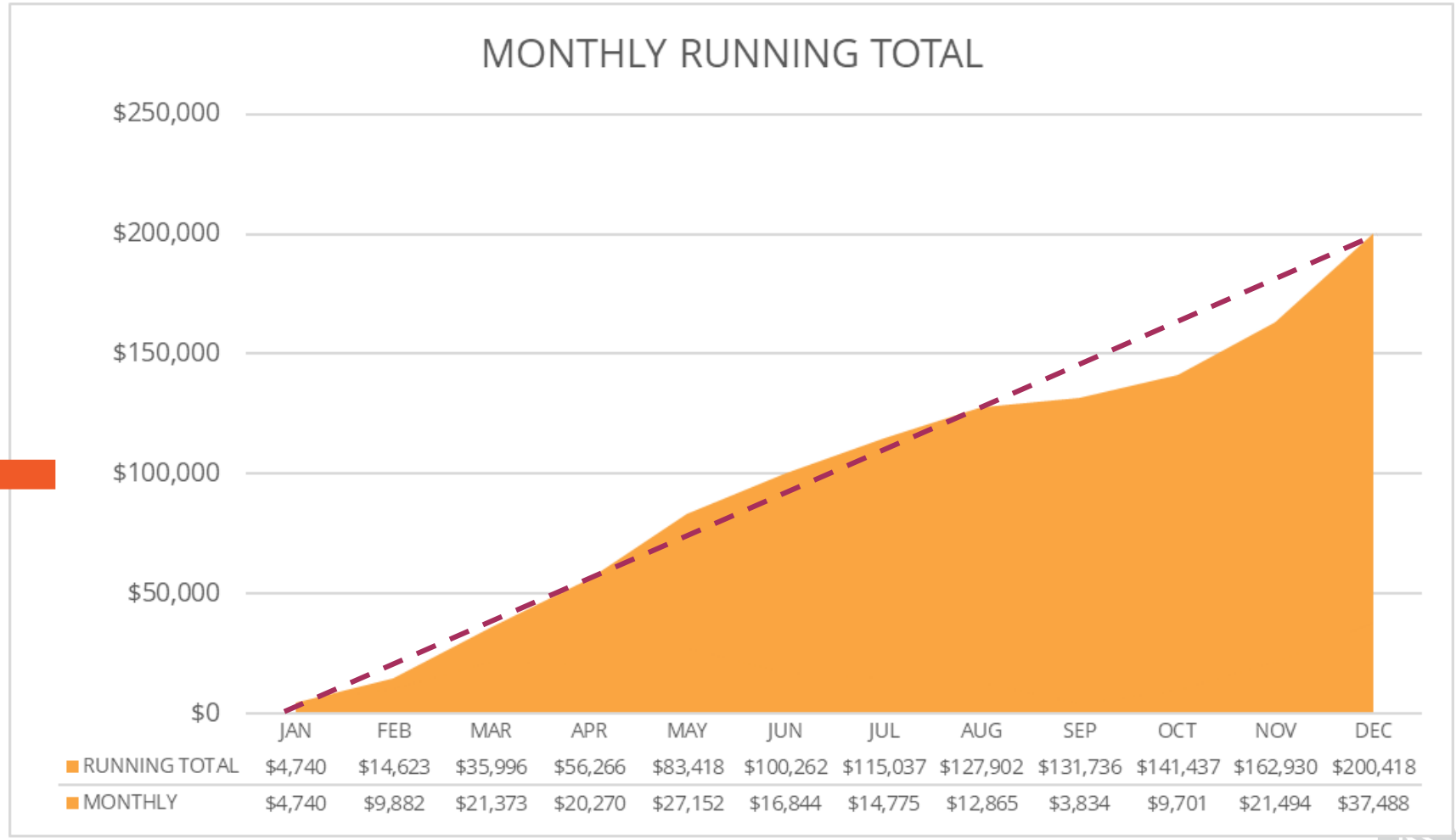
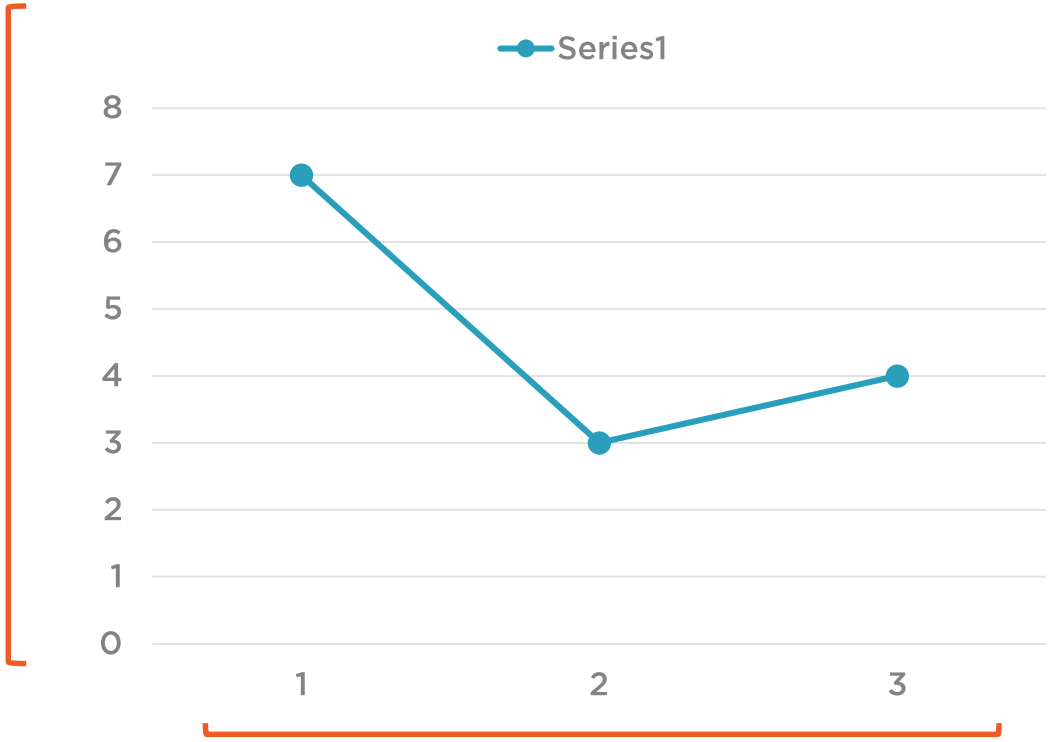


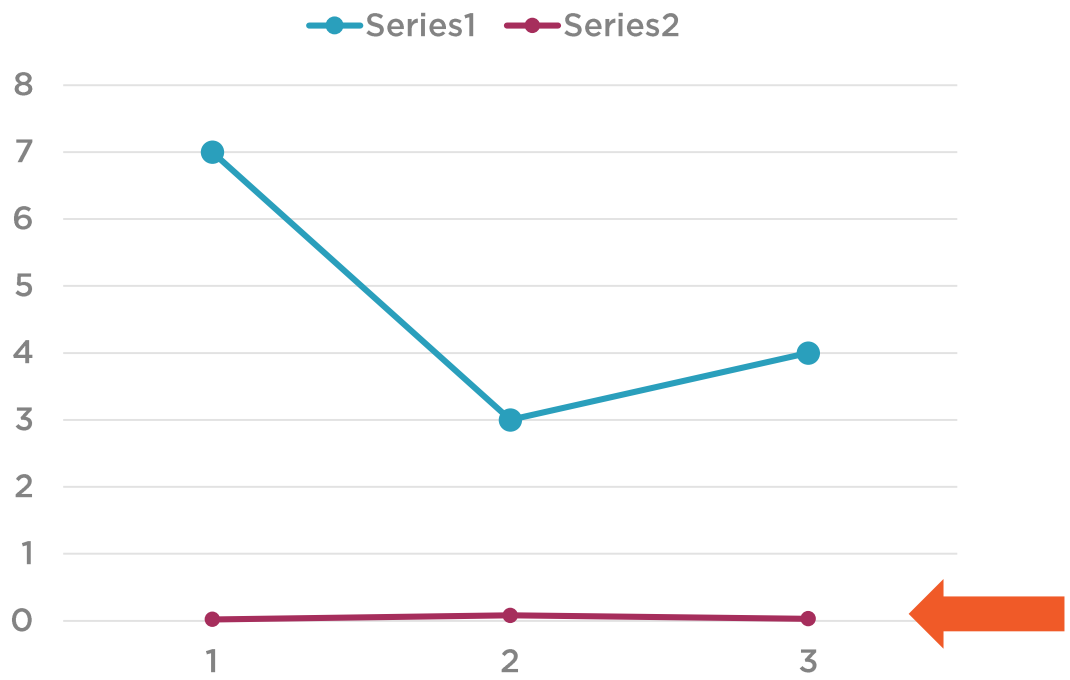
Line Chart

Vertical axis
VALUES



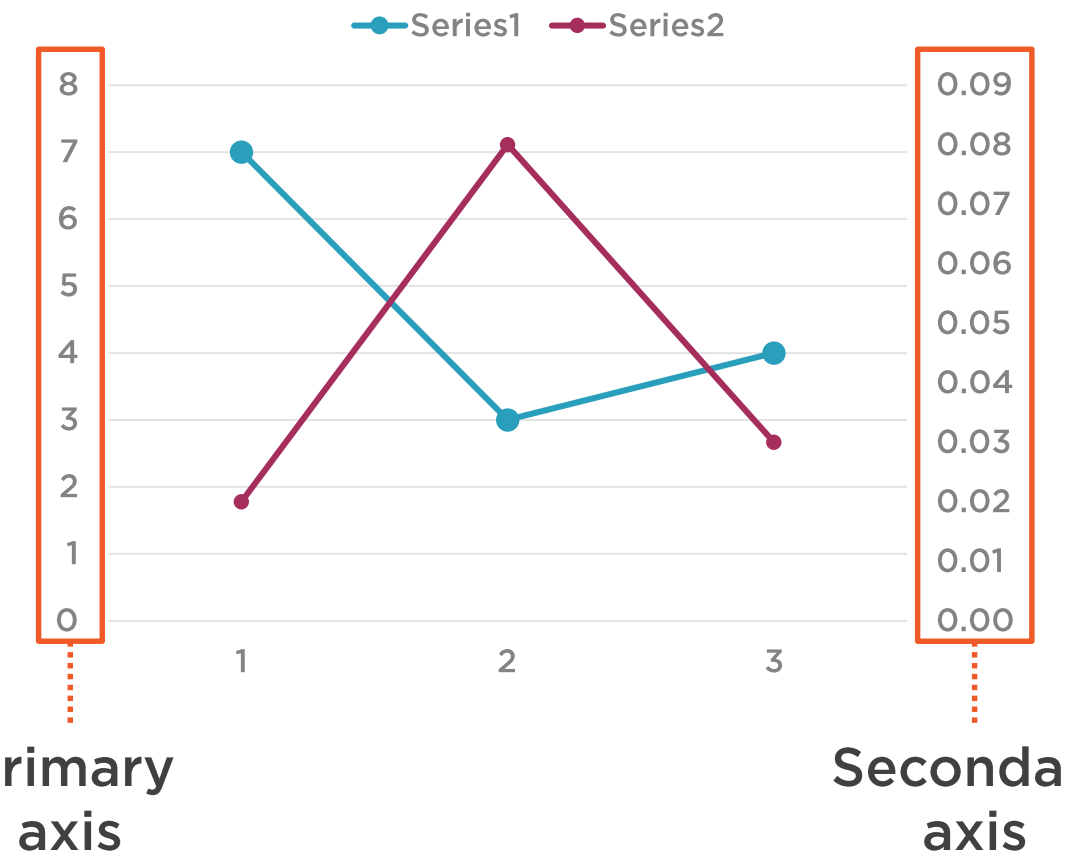
Horizontal axis
CATEGORIES

Data Series



Name	A	B
Category 1	7	0.02
Category 2	3	0.08
Category 3	4	0.03

Secondary Axis



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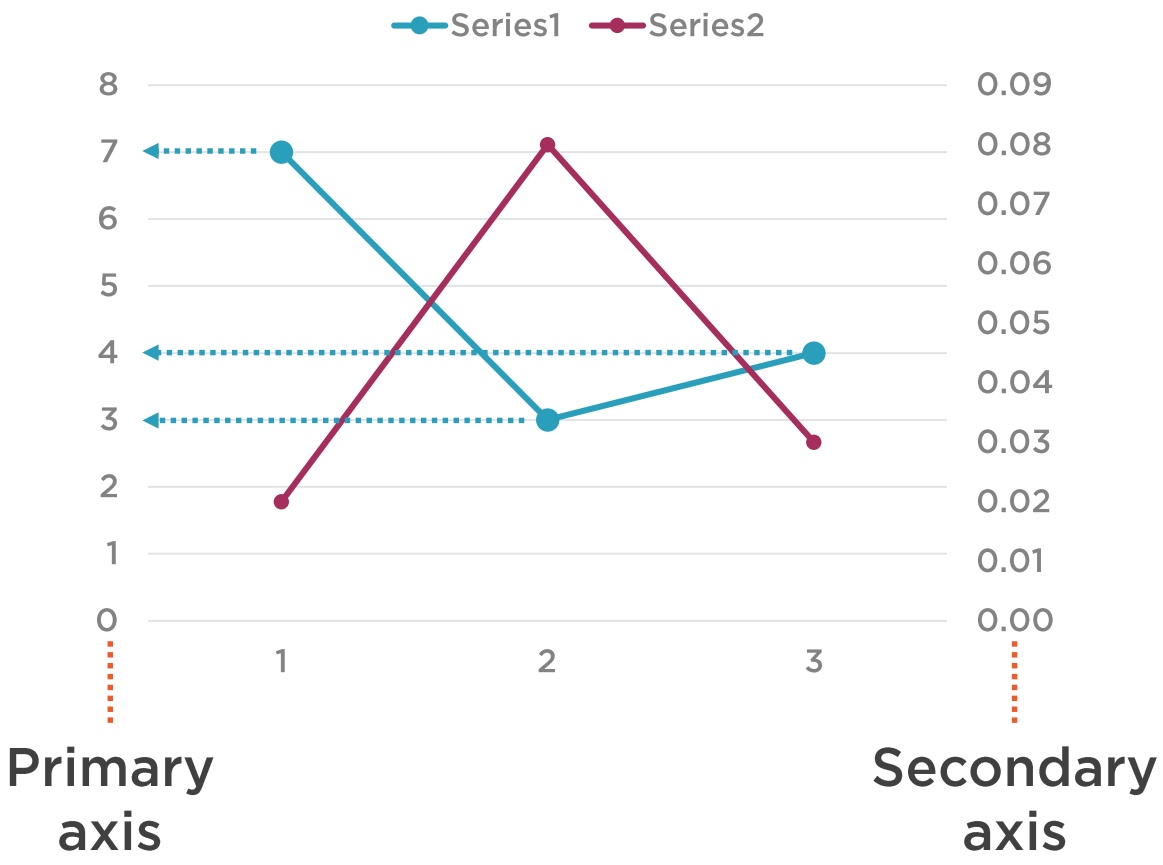

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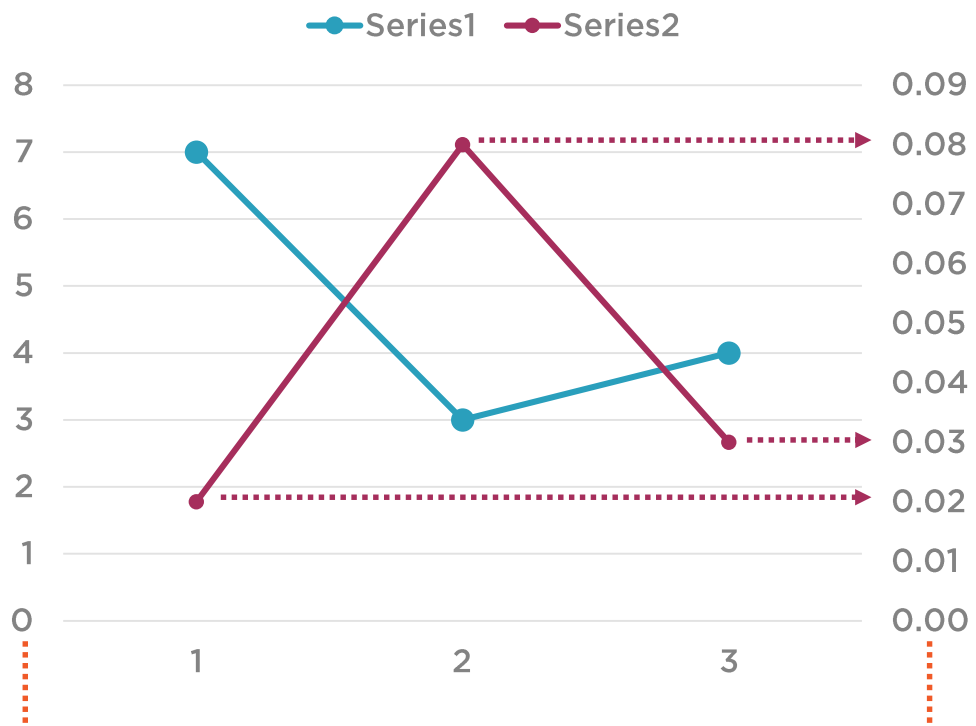

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trend line

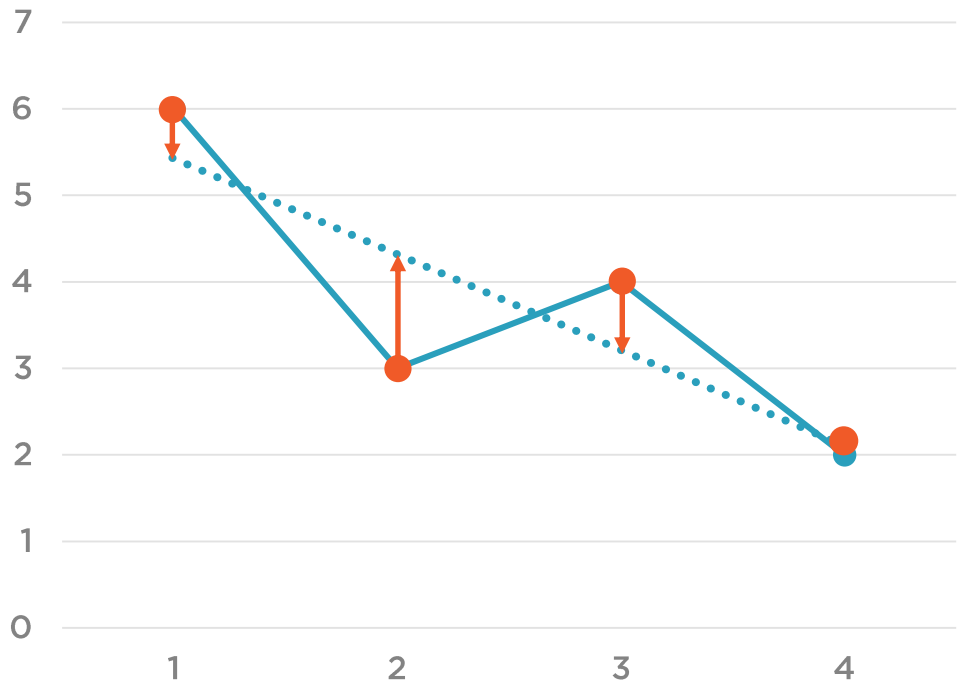
A line on a graph showing a statistical trend

regression

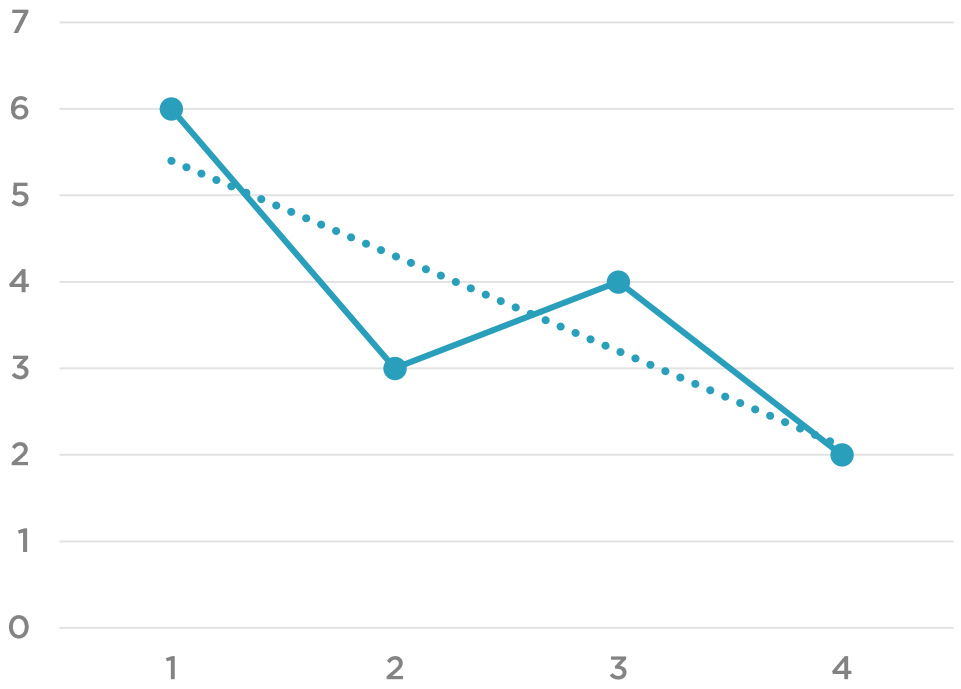
A functional relationship between two or more correlated variables that is often empirically determined from data and is used especially to predict values of one variable when given values of the others

www.meriam-webster.com

Linear Trendline



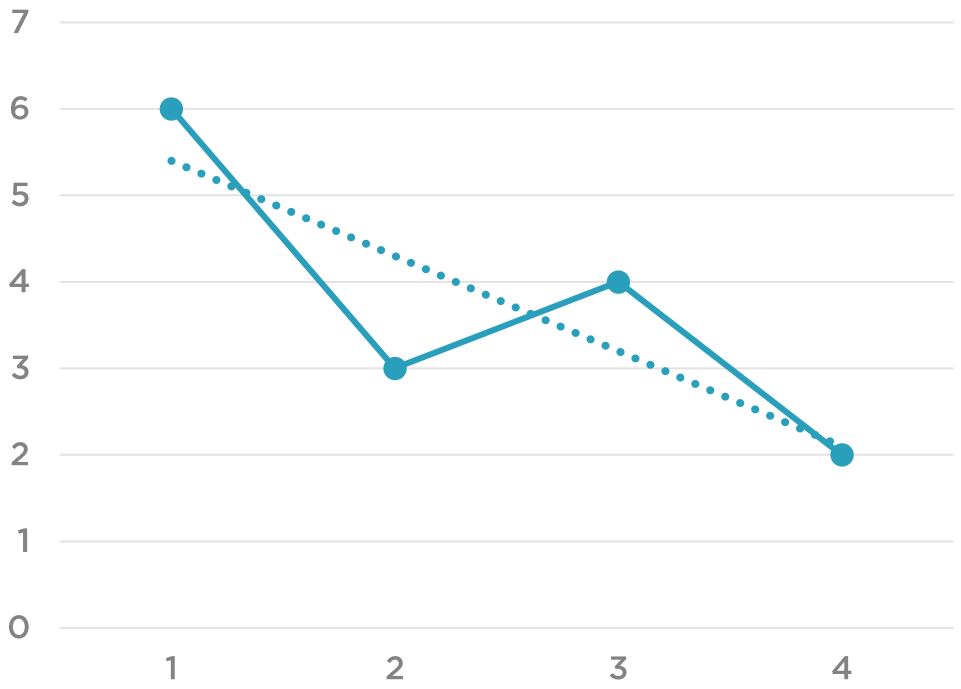
Linear Trendline



$$y = mx + b$$

Value Slope Intercept

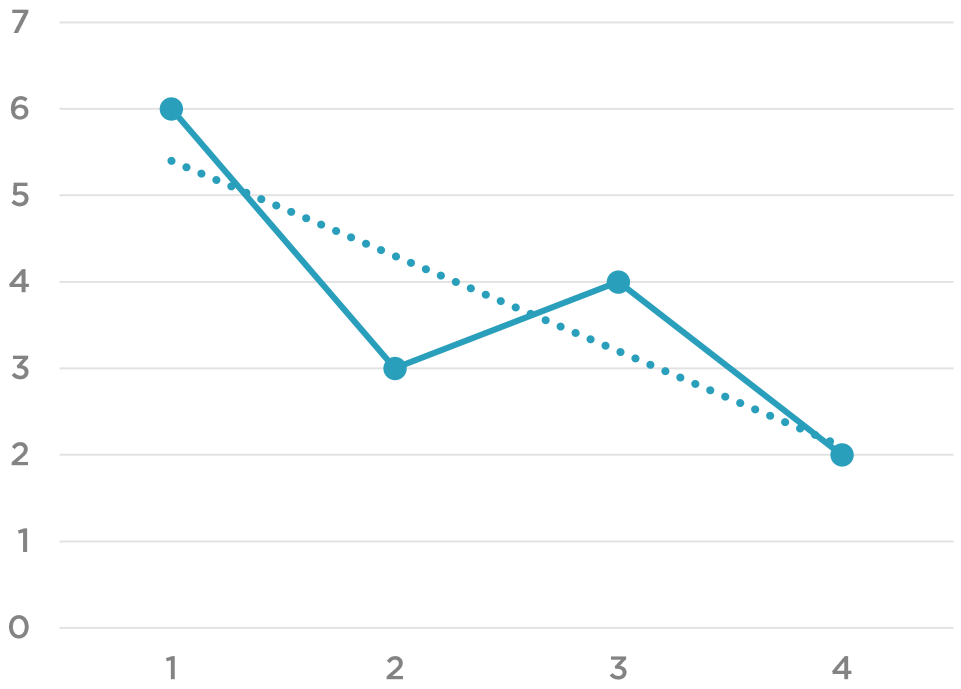
Linear Trendline



$$y = -1.1x + 6.5$$

Value Slope Intercept

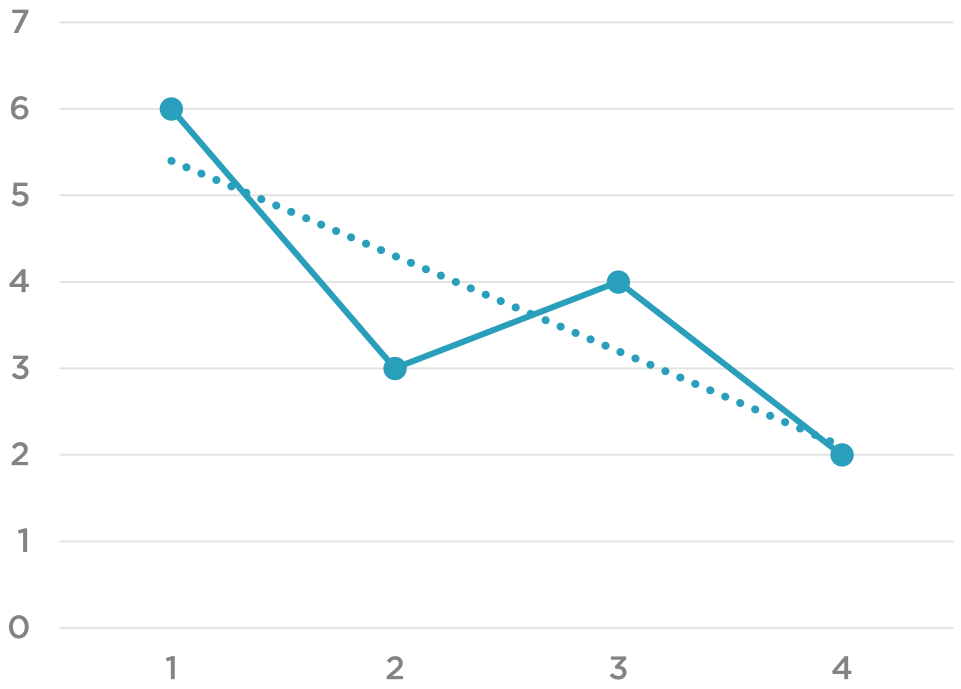
Linear Trendline



$y = -1.1x + 6.5$

R^2 : Measure

Linear Trendline

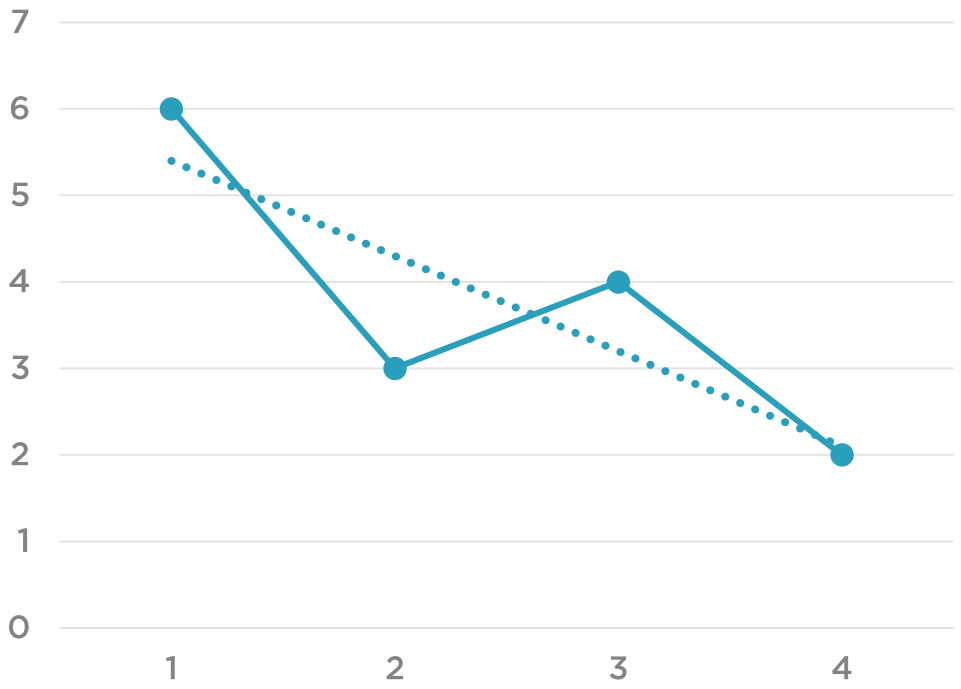


$$y = -1.1x + 6.5$$

R^2 : Measure

0---------1

Linear Trendline

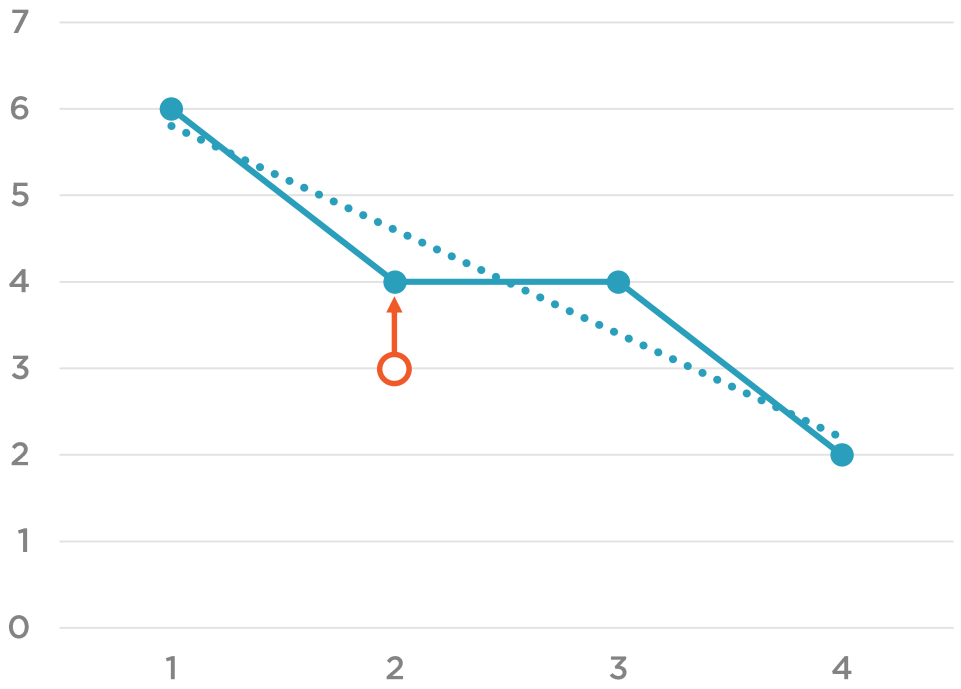


$y = -1.1x + 6.5$

$R^2 = 0.691$

0------|---1

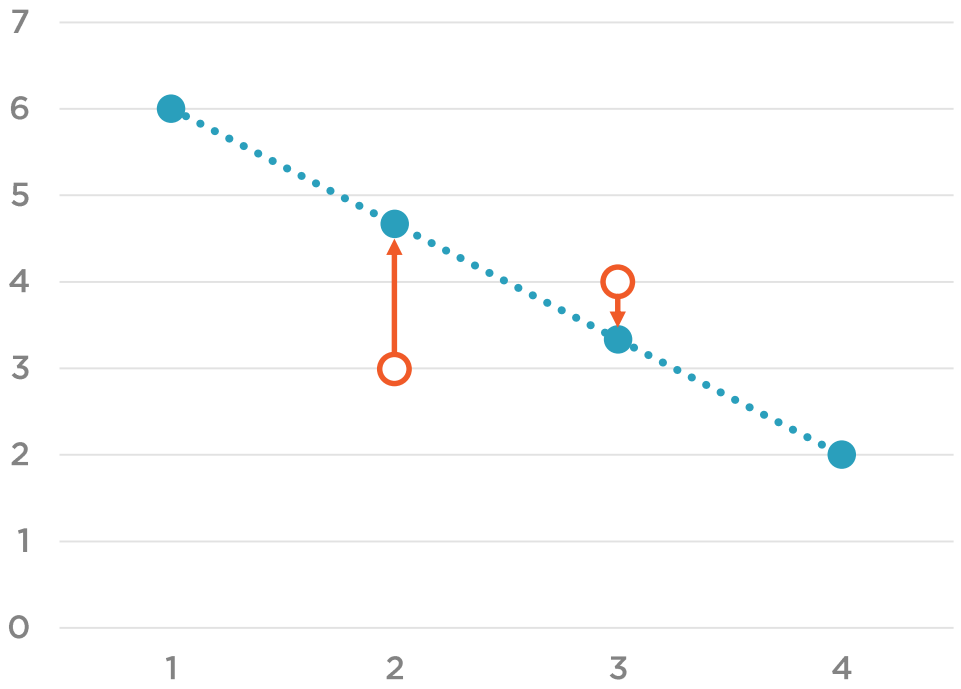
Linear Trendline



$$y = -1.2x + 7.0$$

$$R^2 = 0.900$$

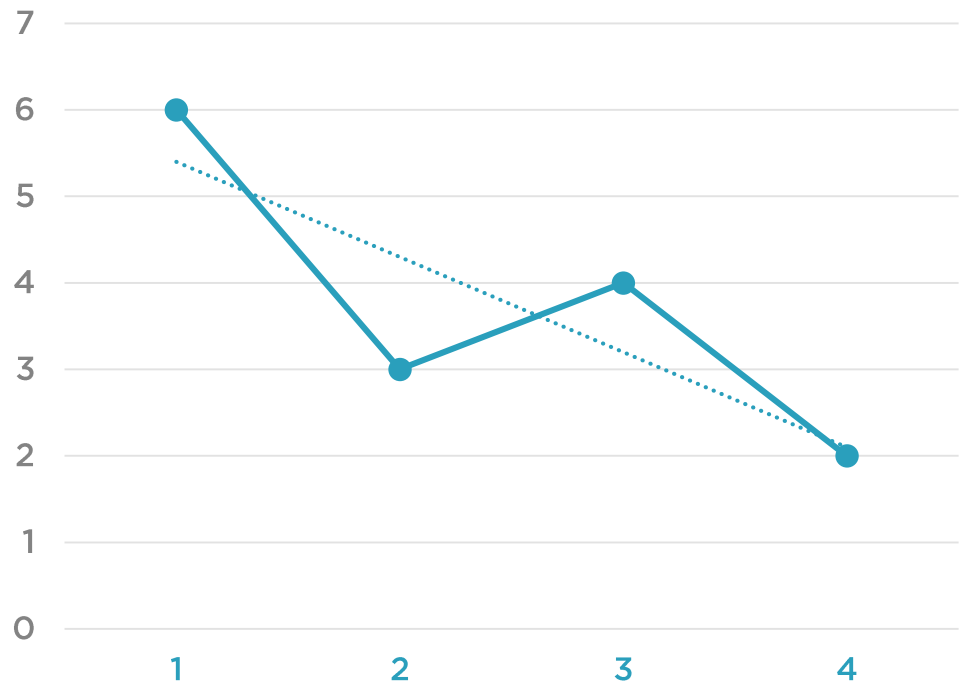
Linear Trendline



$$y = -1.33x + 7.33$$

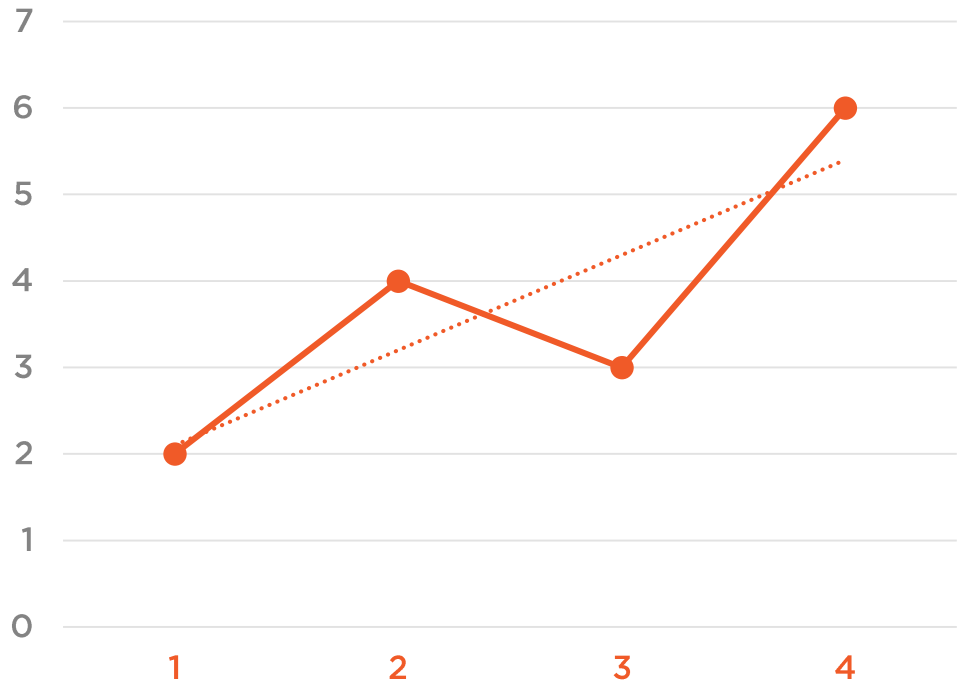
$$R^2 = 1.00$$

Linear Trendline



$y = -1.1x + 6.5$

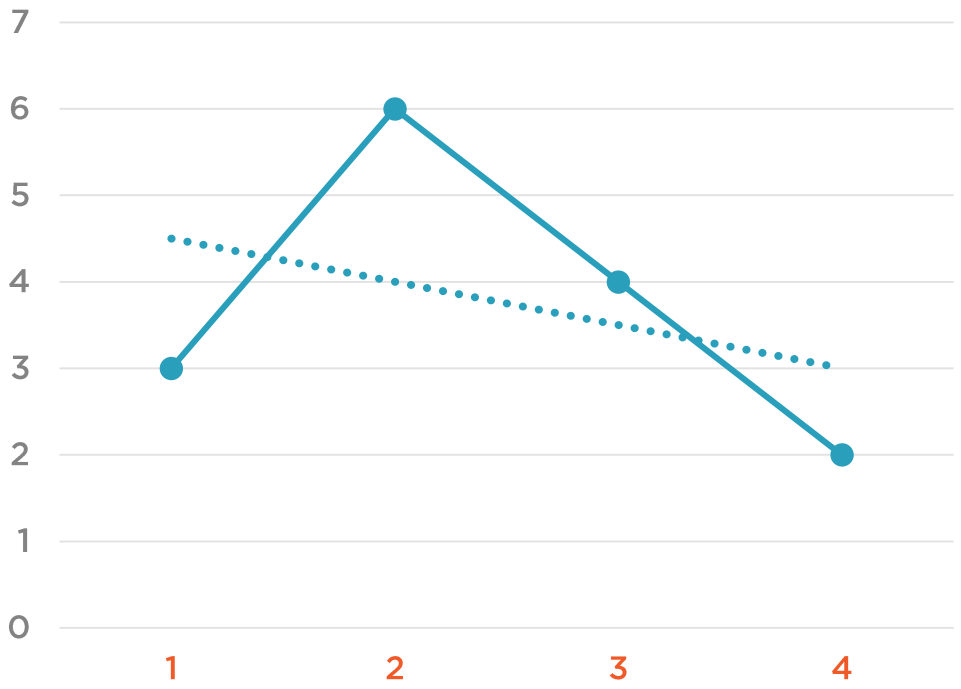
$R^2 = 0.691$



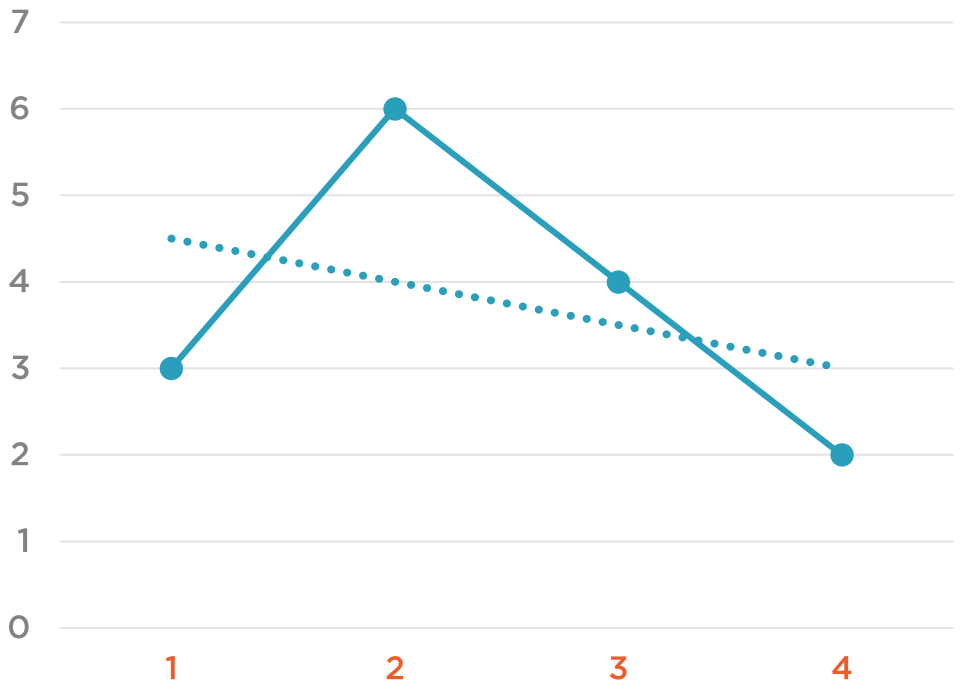
$y = 1.1x + 1.0$

$R^2 = 0.691$

Linear Trendline



Linear Trendline



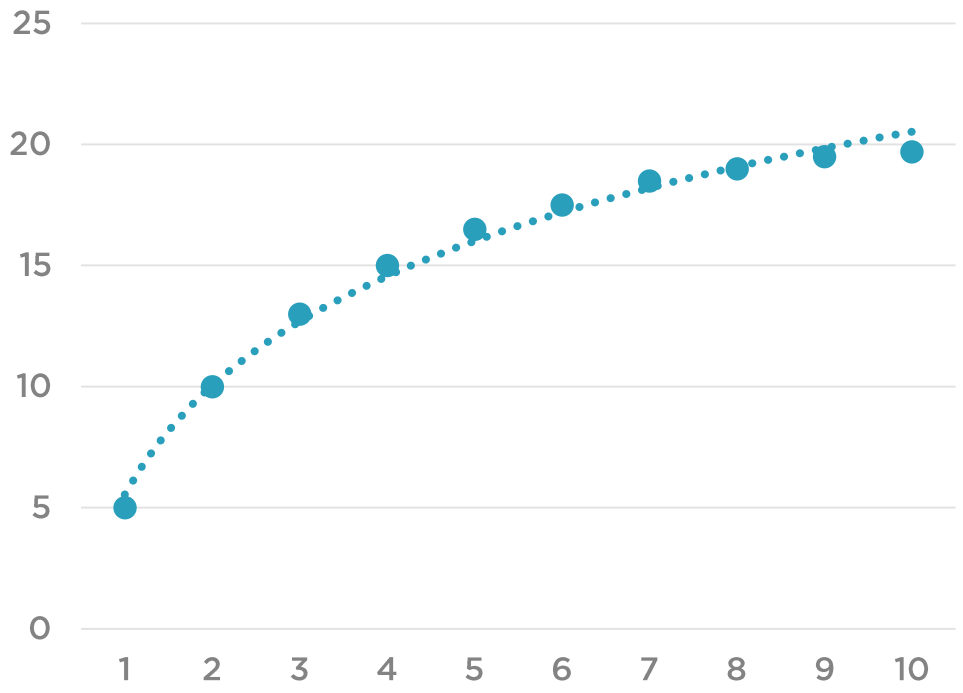
$$y = -0.5x + 5.0$$

$$R^2 = 0.143$$

Trendline Options

Linear	Logarithmic	Exponential
Polynomial	Power	**Moving average**

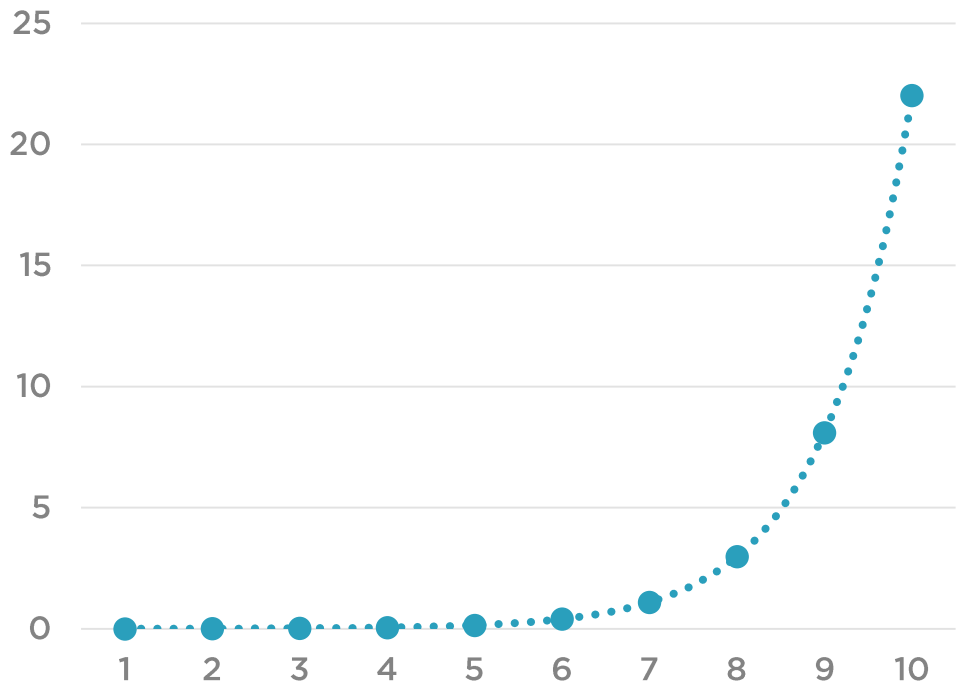
Logarithmic Trendline



$$y = a * \ln x + b$$

High initial rate of change, then levels out

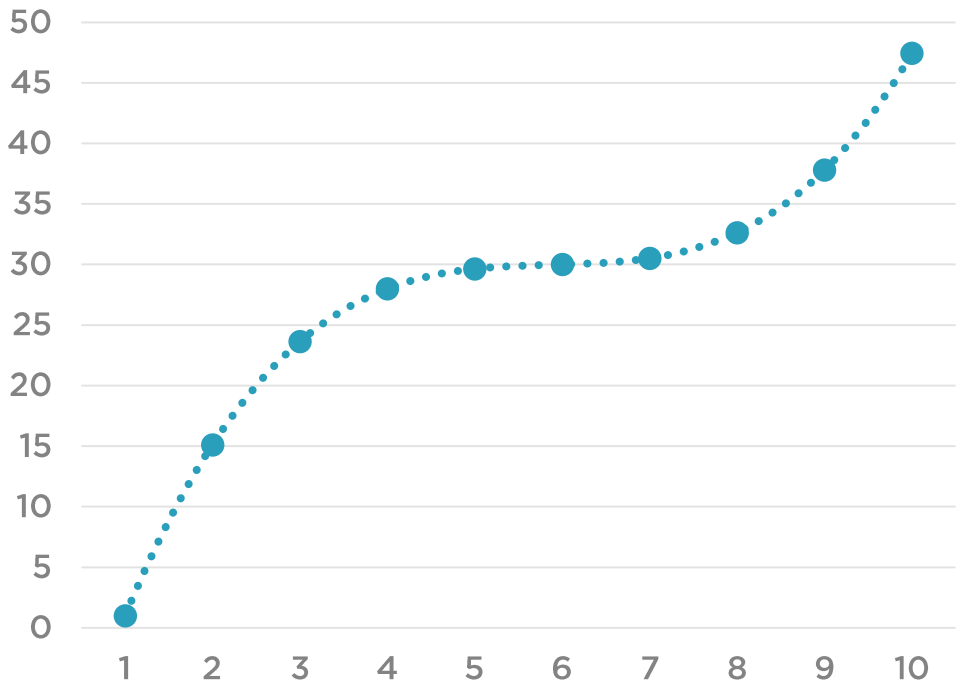
Exponential Trendline



$$y = a * e^{bx}$$

Rate of change
continuously increases

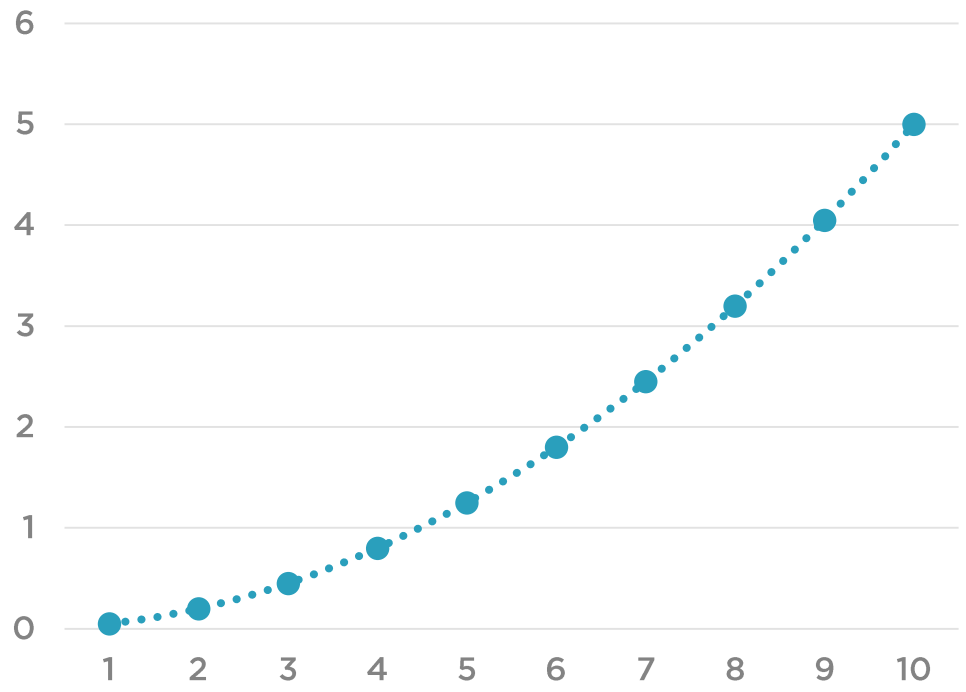
Polynomial Trendline



$$y = \beta_0 + \beta_1 x + \beta_2 x^2 + \cdots + \boxed{\beta_n x^n}$$

One or more apparent inflection points

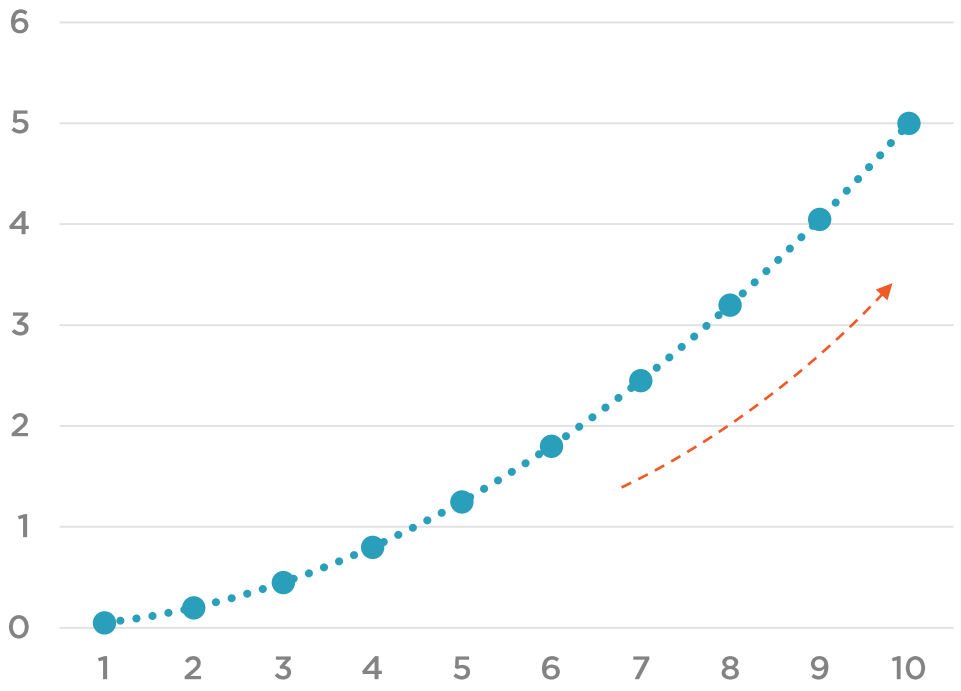
Power Trendline



$$y = a * x^{b}$$

Positive values increasing at a specific rate

Power Trendline



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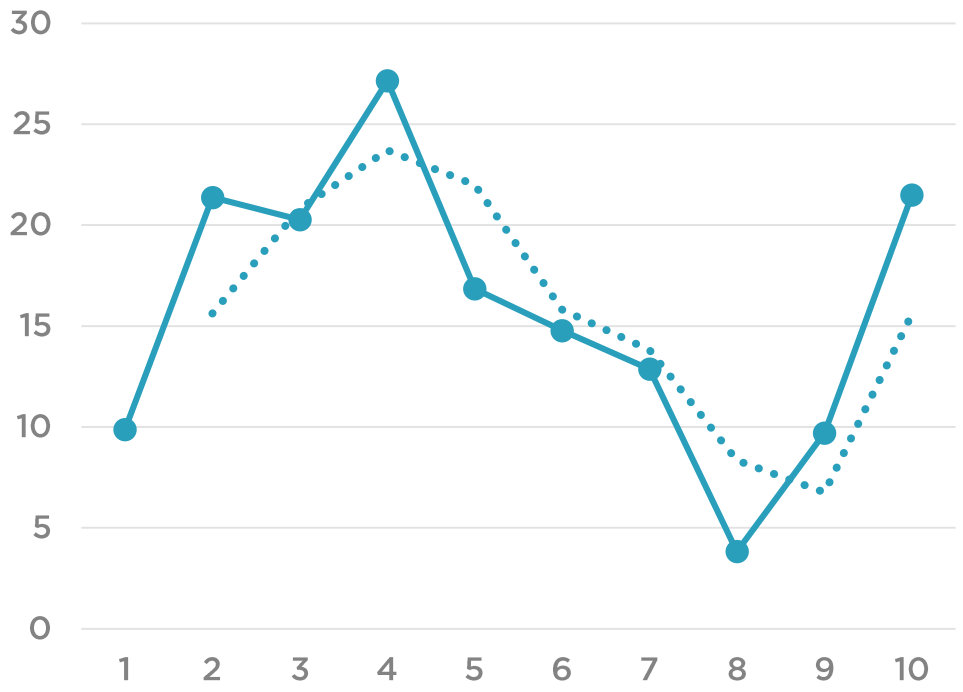
Positive values increasing at a specific rate

Moving Average Trendline

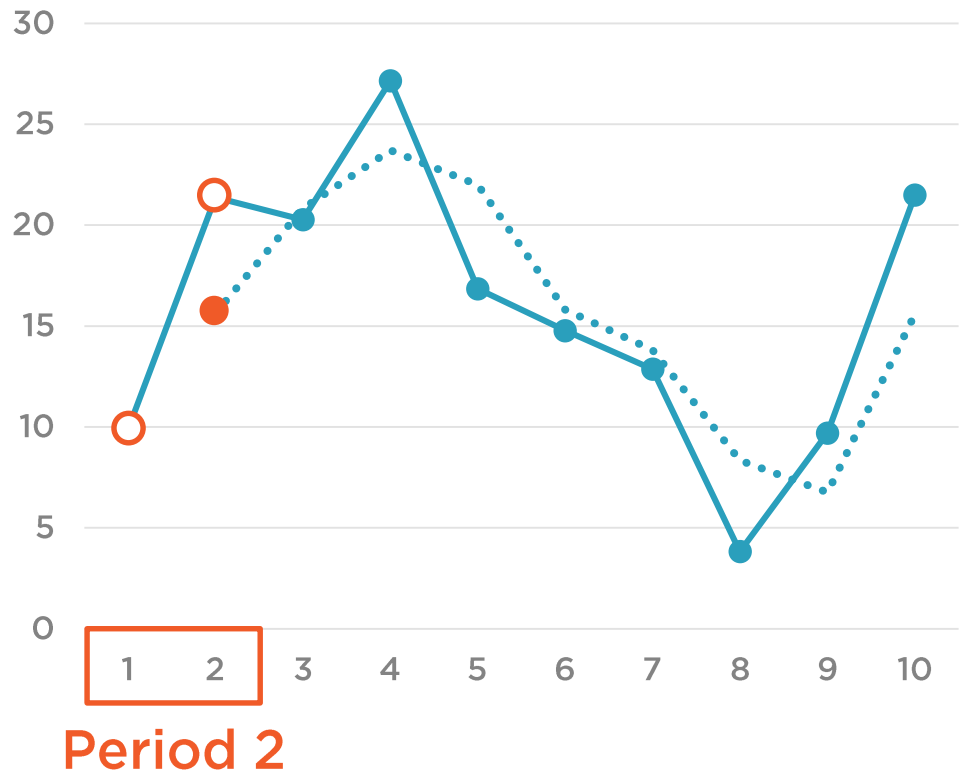


Smooth out noise and variations to show a pattern

Period

Number of points to average

Moving Average Trendline



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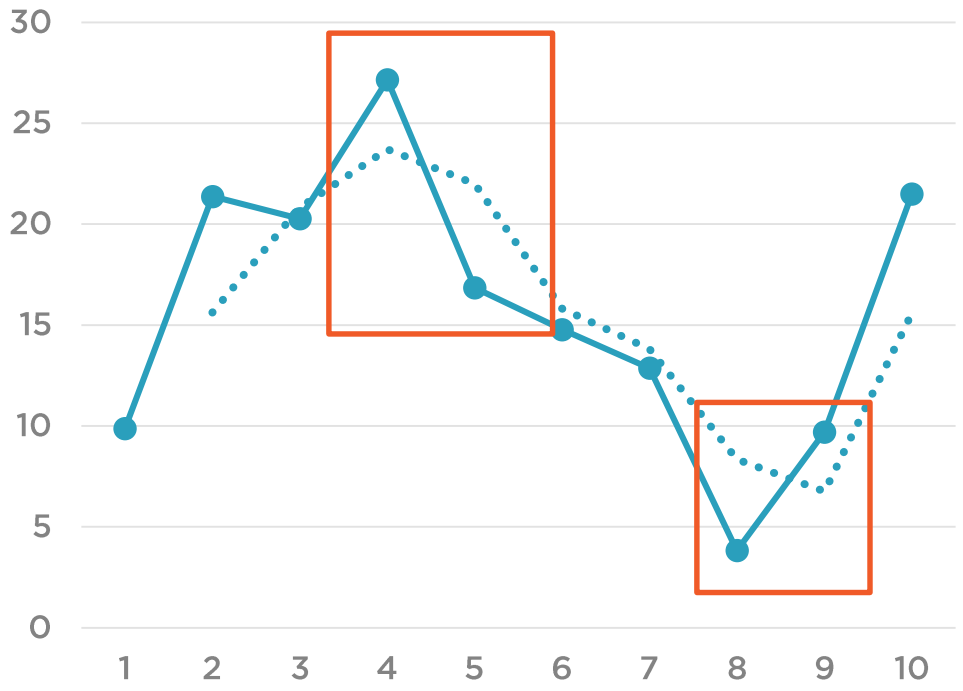


Smooth out noise and variations to show a pattern

Period

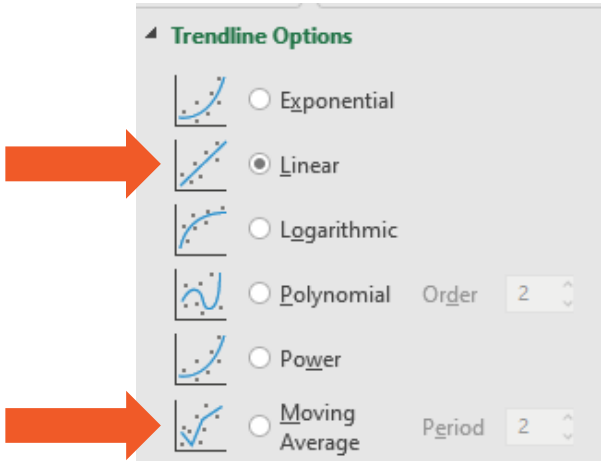
Number of points to average

Summary – Chart Design

Secondary axis

Combo chart

Summary – Trendlines



Trendline options

R^2

0---------1

Coefficient of determination

Summary – Add Trendlines

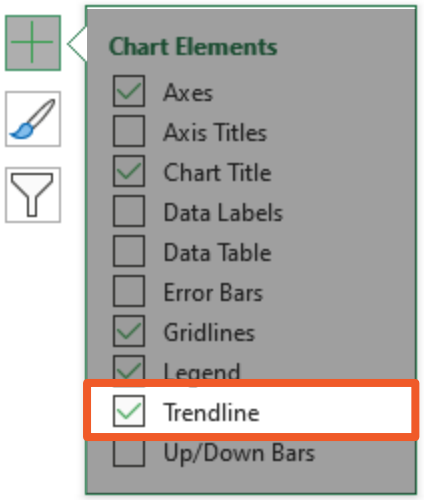


Chart elements menu

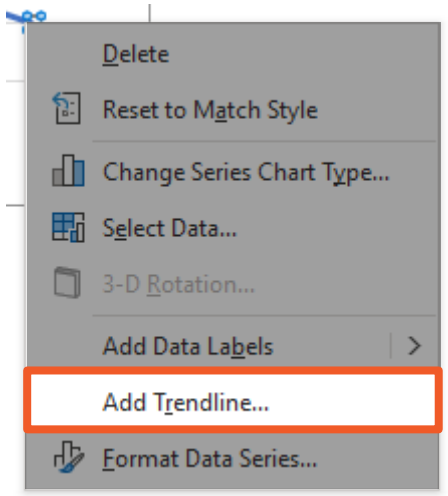


Chart context menu

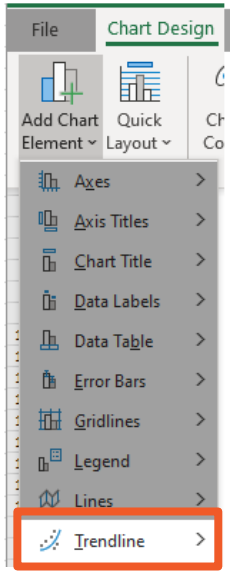


Chart design ribbon