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10th December 2021

Data Visualization

Questions – Individual Assignment

The questions below are intended to give you a sense of how questions will look on the final presentation.

A. SUBMIT THESE PAGES WITH YOUR CORRECT ANSWERS

B. SUBMIT A TABLEAU PACKAGED WORKBOOK WITH A SHEET PER QUESTION (WHEN APPLICABLE) SHOWING THE RATIONALE YOU USED TO SOLVE EACH QUESTION. NAME THE LABEL OF EACH WORKSHEET AS "Q4, Q5, Q6, ETC.)
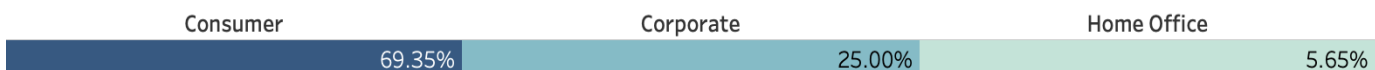
1. 1. To connect to multiple tables in a single data source at one time, what must be specified? a. A blend
   a. A calculation
   b. A join
   c. A hierarchy

2. Tableau can create worksheet-specific filters.
   a. True
   b. False

3. What does the box in a box plot represent?
   a. Maximum extent of the data
   b. The range of the middle half of the data points
   c. The median of the middle half of the data points
   d. The outliers of the data

The following questions use the dataset Sample-Superstore Subset (Excel)

4. What is the percent of total Sales for the 'Home Office' Customer Segment in July of 2019?

4. What is the percent of total Sales for the 'Home Office' Customer Segment in July of 2019?
Ans: 5.65%

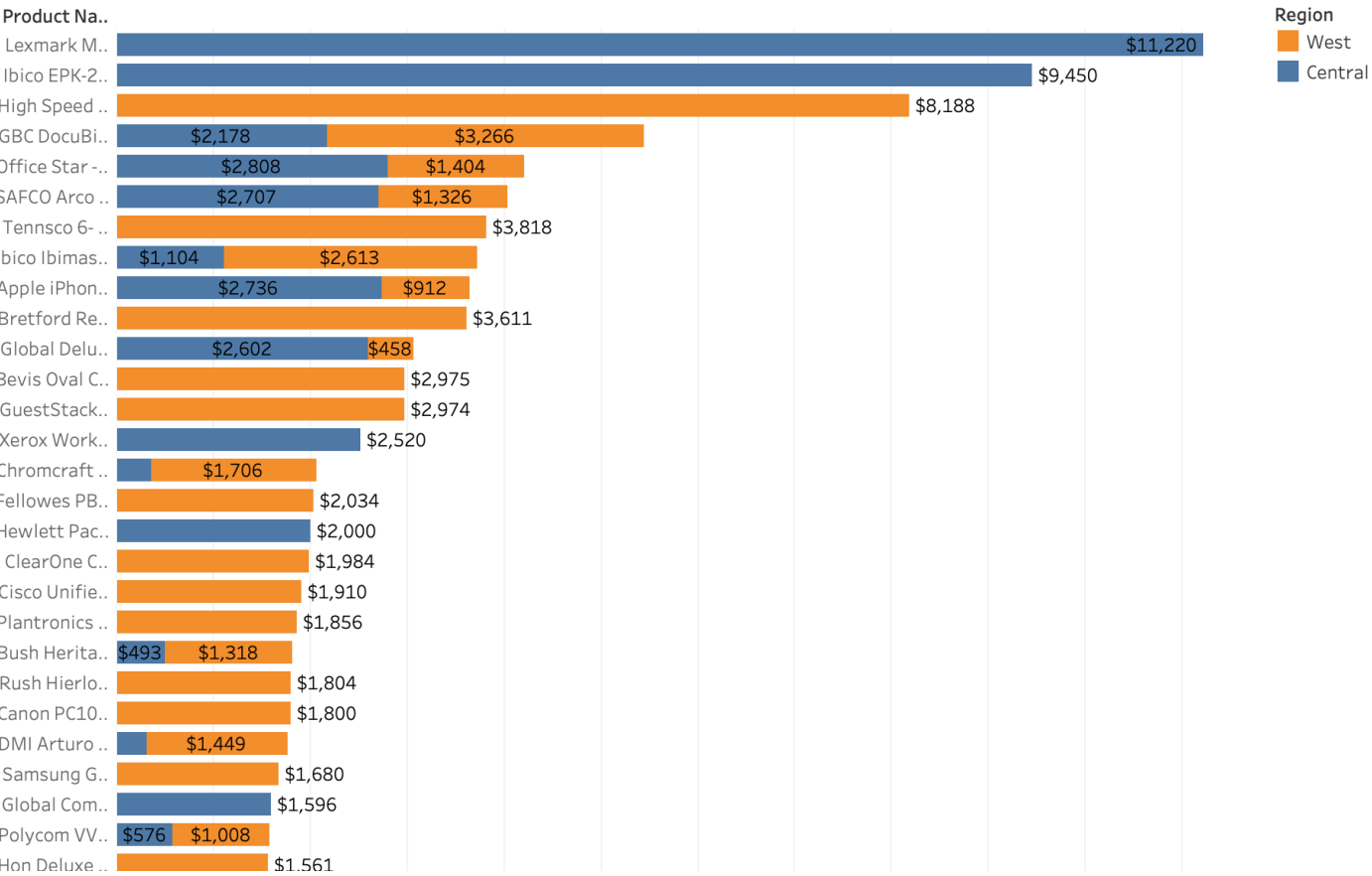| Consumer	Corporate	Home Office
69.35%	25.00%	5.65%

5. Find the top 10 Product Names by Sales within each region. Which product is ranked #2 in both the Central & West regions in 2018?

5. Find the top 10 Product Names by Sales within each region. Which product is ranked #2 in both the Central & West regions in 2018?
Ans: Office Star - Professional Matrix Back Chair with 2-to-1 Synchro Tilt and Mesh Fabric Seat

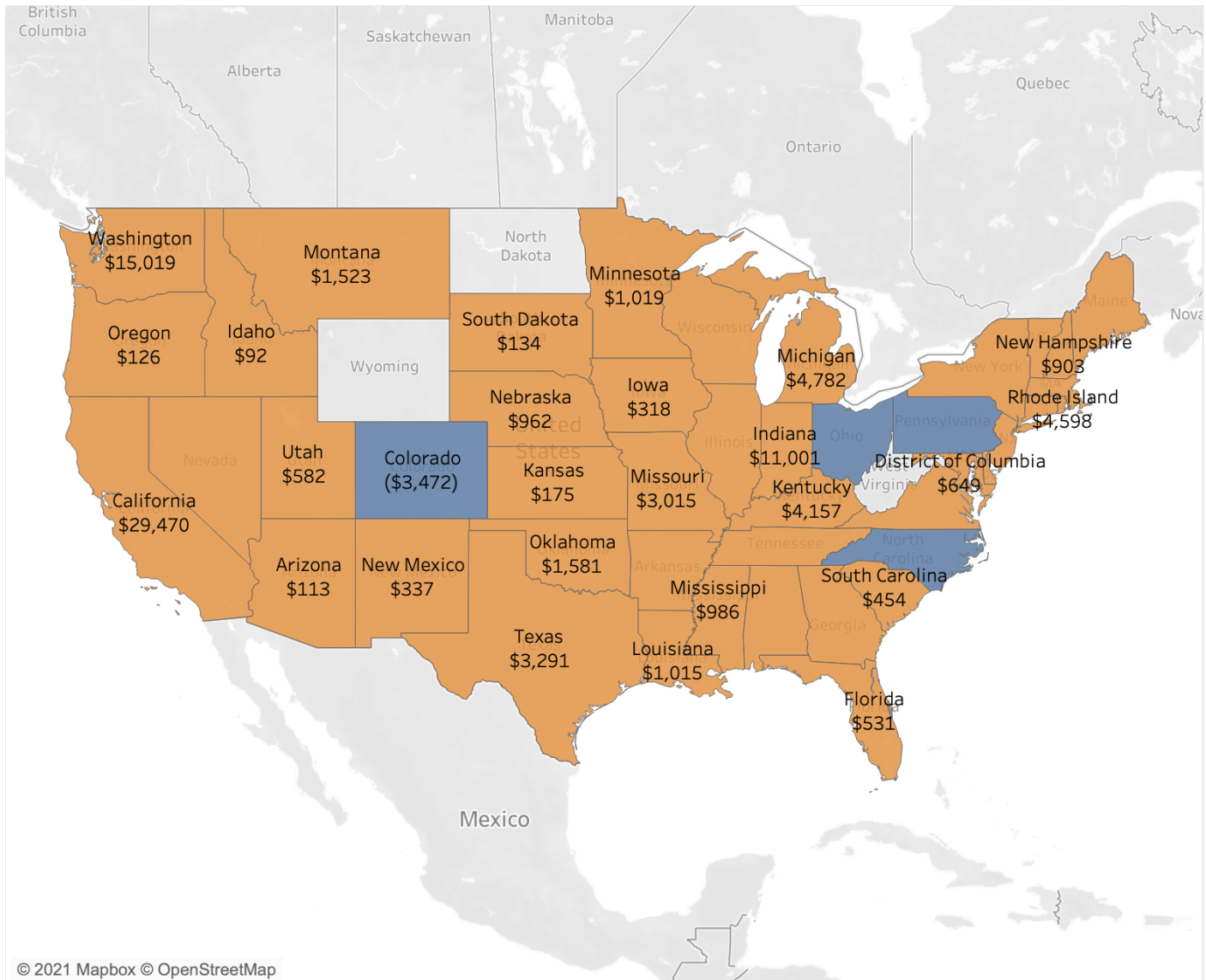| Product Na..		Region
Lexmark M..	$11,220	■ West
Ibico EPK-2..	$9,450	■ Central
High Speed ..	$8,188	
GBC DocuBi..	$2,178 $3,266	
Office Star -..	$2,808 $1,404	
SAFCO Arco ..	$2,707 $1,326	
Tennsco 6- ..	$3,818	
Ibico Ibimas..	$1,104 $2,613	
Apple iPhon..	$2,736 $912	
Bretford Re..	$3,611	
Global Delu..	$2,602 $458	
Bevis Oval C..	$2,975	
GuestStack..	$2,974	
Xerox Work..	$2,520	
Chromcraft ..	$1,706	
Fellowes PB..	$2,034	
Hewlett Pac..	$2,000	
ClearOne C..	$1,984	
Cisco Unifie..	$1,910	
Plantronics ..	$1,856	
Bush Herita..	$493 $1,318	
Rush Hierlo..	$1,804	
Canon PC10..	$1,800	
DMI Arturo ..	$1,449	
Samsung G..	$1,680	
Global Com..	$1,596	
Polycom VV..	$576 $1,008	
Hon Deluxe ..	$1,561	

6. In the Technology Product Category, which unprofitable state is surrounded by only profitable states? a. Colorado

In the Technology Product Category, which unprofitable state is surrounded by only profitable states?
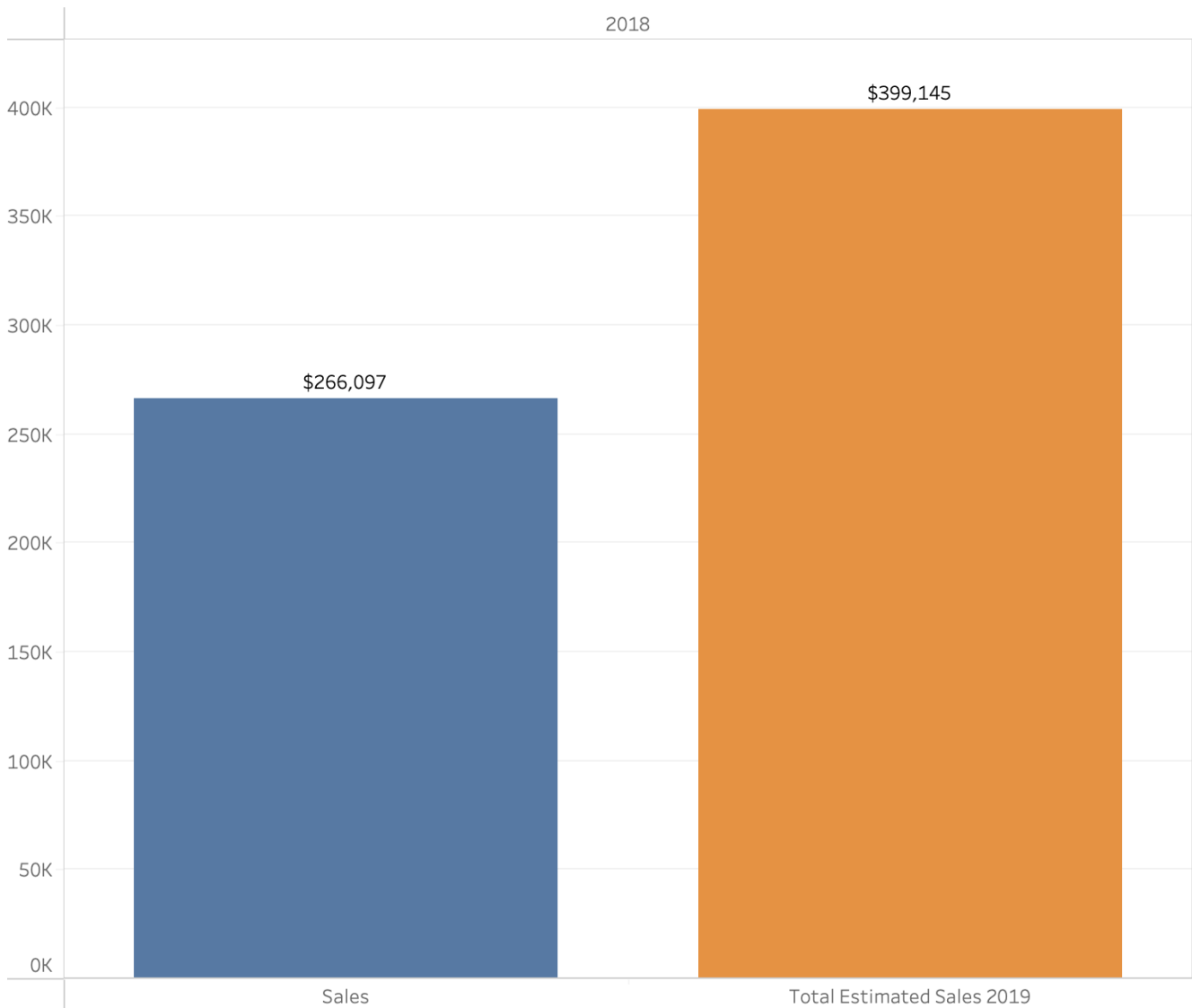Ans. Colorado

7. If 2018 Sales numbers were expected to increase by 50% in the following year, what would be the total estimated sales for the Consumer Segment in 2019?

7. If 2018 Sales numbers were expected to increase by 50% in the following year, what would be the total estimated sales for the Consumer Segment in 2019?
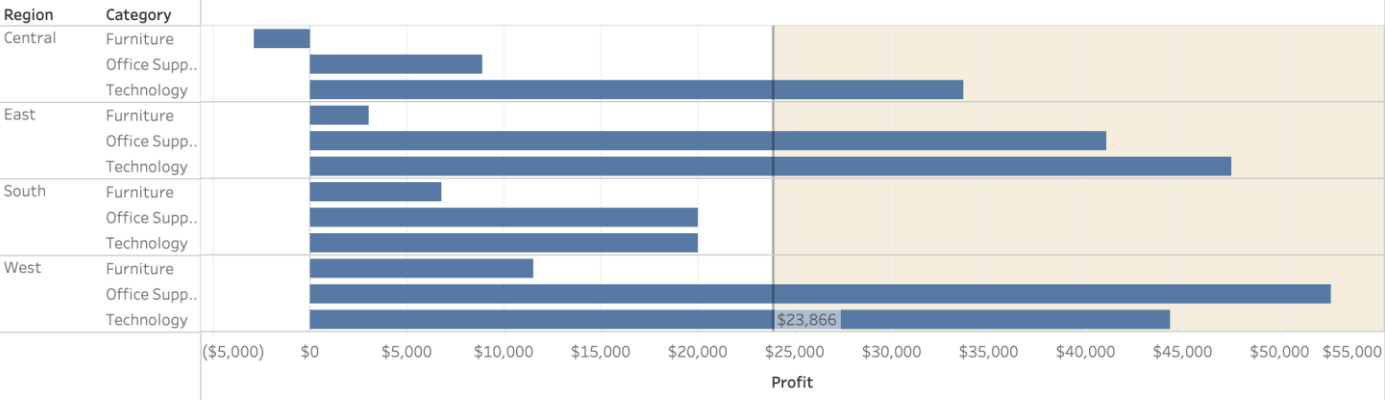Ans: $399,145

2018

8. In which Region do all Product Categories fall beneath the overall average profit?

8. In which Region do all Product Categories fall beneath the overall average profit?
Ans: South Region product categories profit is less than overall average profit indicated by the referecne line.

9. Which Product Sub-Category has a Shipping Cost to Sales ratio of above 3%?

9. Which Product Sub-Category has a Shipping Cost to Sales ratio of above 3%? (Shipping Cost not avaible in superstore dataset, so I have modified question)
9. Which Product Sub-Categories has a profit to sales ratio of above 40%?
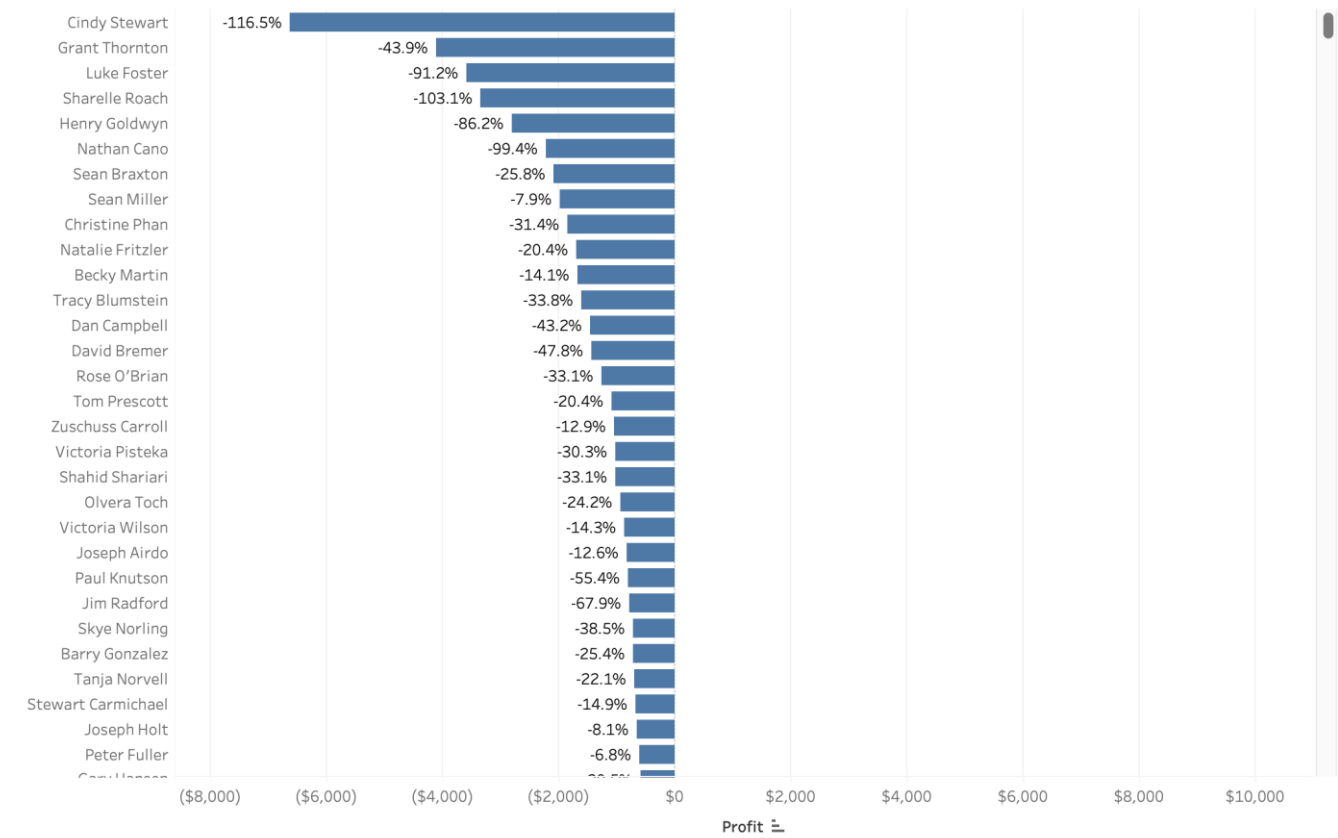### Ans: Envelopes, Labels, and Paper

Sub-Category	Profit	Sales	Profit per Order	SUM([Profit])/SUM([Sales])
Accessories	$41,937	$167,380	$58.41	25.1%
Appliances	$18,138	$107,532	$40.22	16.9%
Art	$6,528	$27,119	$8.93	24.1%
Binders	$30,222	$203,413	$22.96	14.9%
Bookcases	($3,473)	$114,880	$-15.50	-3.0%
Chairs	$26,590	$328,449	$46.16	8.1%
Copiers	$55,618	$149,528	$817.91	37.2%
Envelopes	$6,964	$16,476	$27.97	42.3%
Fasteners	$950	$3,024	$4.42	31.4%
Furnishings	$13,059	$91,705	$14.89	14.2%
Labels	$5,546	$12,486	$16.03	44.4%
Machines	$3,385	$189,239	$30.22	1.8%
Paper	$34,054	$78,479	$28.59	43.4%
Phones	$44,516	$330,007	$54.69	13.5%
Storage	$21,279	$223,844	$27.39	9.5%
Supplies	($1,189)	$46,674	$-6.36	-2.5%
Tables	($17,725)	$206,966	$-57.74	-8.6%

10. Find the customer with the lowest overall profit. What is his/her profit ratio?

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Ans: Cindy Stewart with -116.5% profit ratio

Customer	Profit Ratio
Cindy Stewart	-116.5%
Grant Thornton	-43.9%
Luke Foster	-91.2%
Sharelle Roach	-103.1%
Henry Goldwyn	-86.2%
Nathan Cano	-99.4%
Sean Braxton	-25.8%
Sean Miller	-7.9%
Christine Phan	-31.4%
Natalie Fritzler	-20.4%
Becky Martin	-14.1%
Tracy Blumstein	-33.8%
Dan Campbell	-43.2%
David Bremer	-47.8%
Rose O'Brian	-33.1%
Tom Prescott	-20.4%
Zuschuss Carroll	-12.9%
Victoria Pisteka	-30.3%
Shahid Shariari	-33.1%
Olvera Toch	-24.2%
Victoria Wilson	-14.3%
Joseph Airdo	-12.6%
Paul Knutson	-55.4%
Jim Radford	-67.9%
Skye Norling	-38.5%
Barry Gonzalez	-25.4%
Tanja Norvell	-22.1%
Stewart Carmichael	-14.9%
Joseph Holt	-8.1%
Peter Fuller	-6.8%

Profit

11. Determine which State in the Central Region has the highest distribution of profits using interquartile ranges.
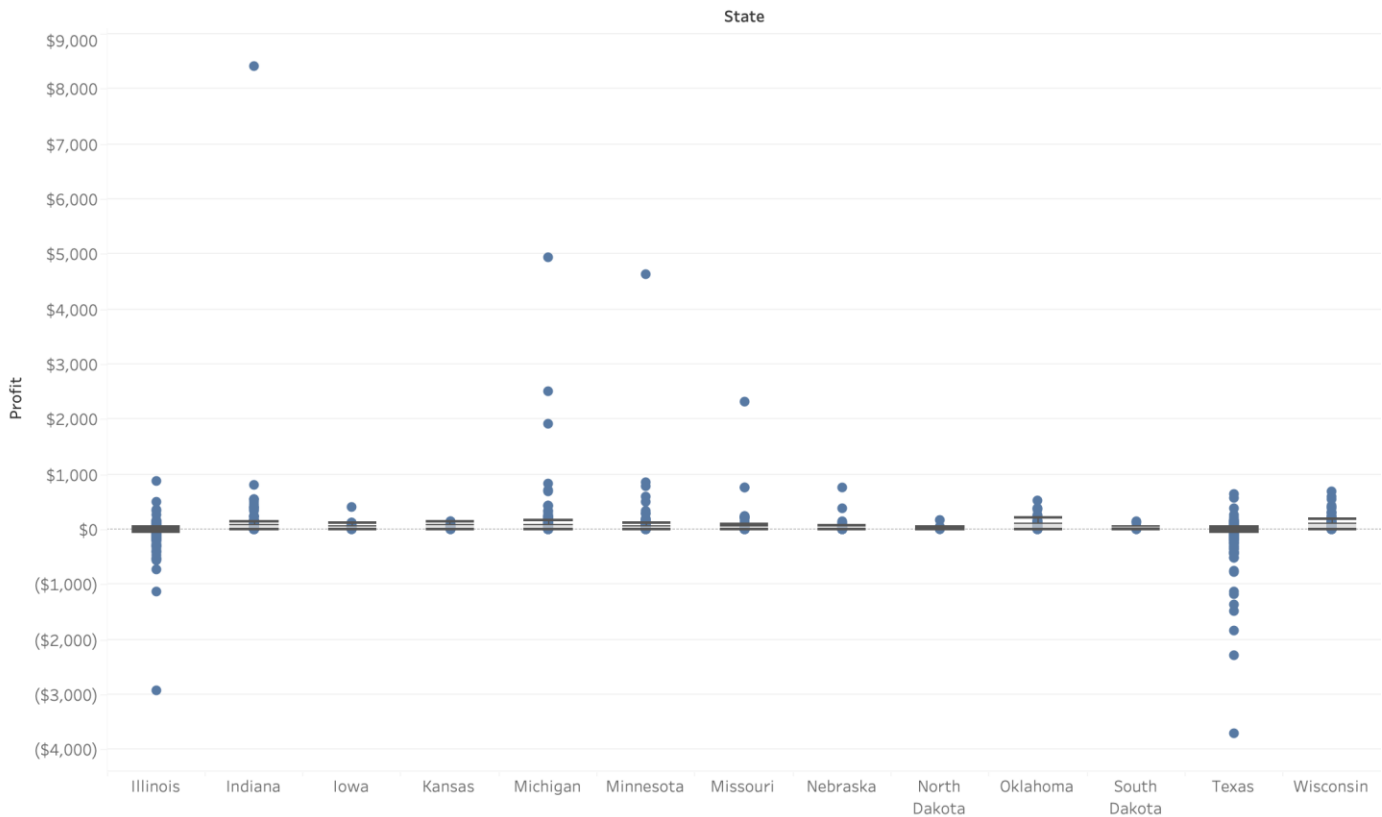
11. Determine which State in the Central Region has the highest distribution of profits using interquartile ranges.

Ans: Oklahoma has the highest distribution of profits with value of $214 looking at the highest wisker in the box plot
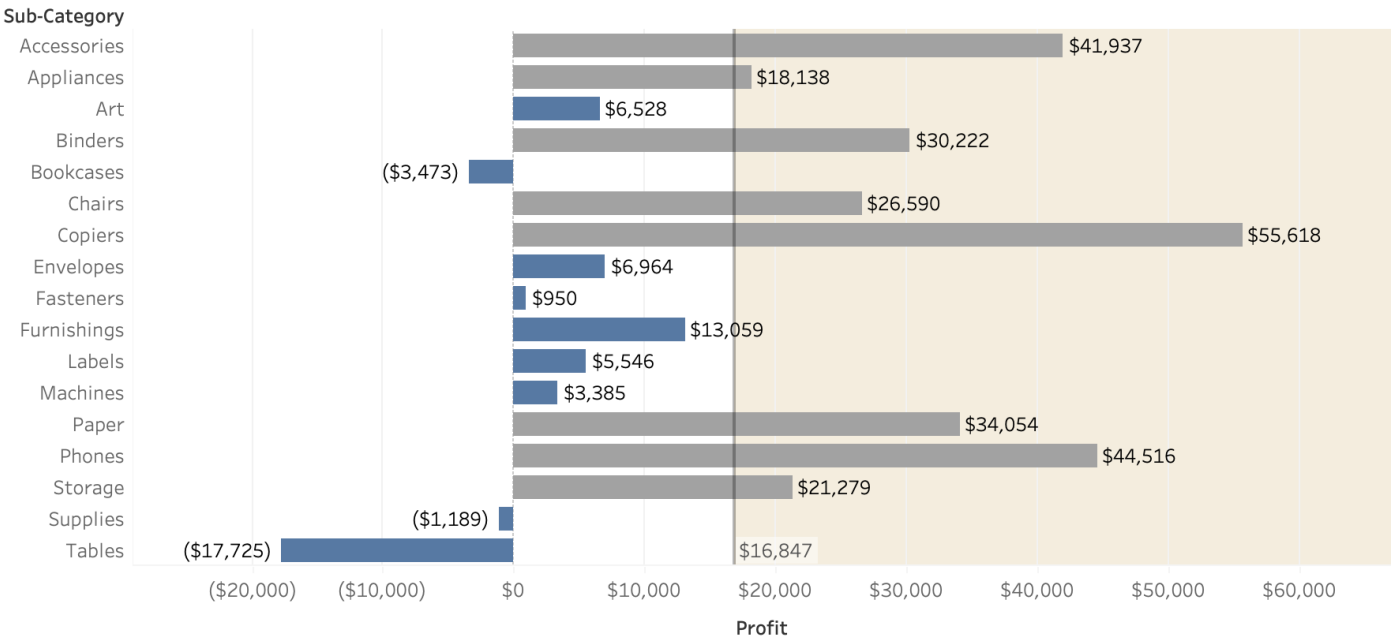
State

12. Look at the sum of profits for each Product Sub-Category. Which sub-categories are below the average profit?

12. Look at the sum of profits for each Product Sub-Category. Which sub-categories are below the average profit?
Ans: Art, Bookcases, Envelopes, Fasteners, Furnishings, Labels, Machines, Supplies, and Tables are the sub-categories which are below the average profit.

Sub-Category	Profit
Accessories	$41,937
Appliances	$18,138
Art	$6,528
Binders	$30,222
Bookcases	($3,473)
Chairs	$26,590
Copiers	$55,618
Envelopes	$6,964
Fasteners	$950
Furnishings	$13,059
Labels	$5,546
Machines	$3,385
Paper	$34,054
Phones	$44,516
Storage	$21,279
Supplies	($1,189)
Tables	($17,725) $16,847

13. What percent of total profits do the top 10 customers by Sales represent?

13. What percent of total profits do the top 10 customer by Sales represent?
Ans: 14.36%

In / Out of T..	
In	14.36%
Out	85.64%

14. What was the Moving Average of Sales in June of 2019, including six months prior and six months after?

14. What was the Moving Average of Sales in June of 2019, including six months prior and six months after?
Ans: $41,292

Month of Order Date:
June-2019
Moving Average of Sales
from the previous 6 to the
next 6 along Table
(Across): **$41,292**

$75,613

$71,694

$67,786

$66,894

$63,863

$63,523

$62,659

$61,101

$59,003

$58,667

$52,625

$51,972

$52,466

$52,088

$51,008

$50,380

$50,244

$47,692

$47,315

$44,884

$44,703

$43,590

$42,280

$41,830

$41,544

$41,103

$41,050

$41,051

$40,354

$39,679

$39,591

$39,458

$38,648

$38,405

$37,991

$37,700

$33,847

$33,607

$27,848

$27,855