

Price for Ford Cars and Trucks (Base Version)



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Explanation

The data uses the current lineup of cars and trucks from Ford. The base prices are the data points. These prices do not include any modifications or add-ons. The data points are also only the street legal cars and trucks.

Data Points

Escape	30,350	Super Duty	45,975
Bronco Sport	31,845	Transit	59,180
Mustang	32,995	E-Transit	48,150
Bronco	40,795	Explorer ST	53,660
Explorer	38,465	Bronco Raptor	79,995
Mustang Mach-E	37,795	F-150 Raptor	79,400
Expedition	62,700	Ranger Raptor	57,270
Maverick	28,145	Mustang GTD	328,000
Ranger	33,550	F-650	69,995
F-150	37,290	F-750	71,880

Five Number Summary

Minimum: \$28,145

Q1: \$35,420

Median: \$47,062.50

Q3: \$66,347.50

Maximum: \$328,000

Mean and Standard Deviation

Mean: $(30350 + 31845 + \dots + 71880) = \$63,371.75$

Standard Deviation: \$64,466.80

Outliers

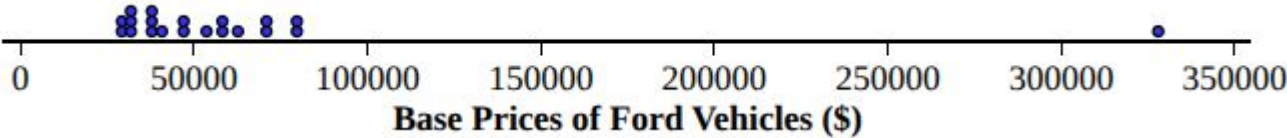
$2x \text{ SD} = 2(64466.80) = 128933.6$

$63371.75 - 128933.6 = -65561.85$

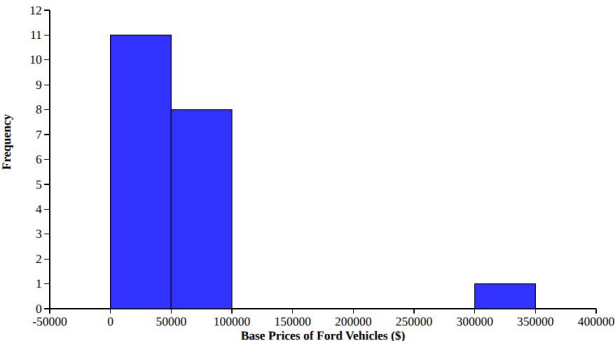
$63371.75 + 128933.6 = 192305.35$

The Mustang GTD is an outlier at \$328,000.

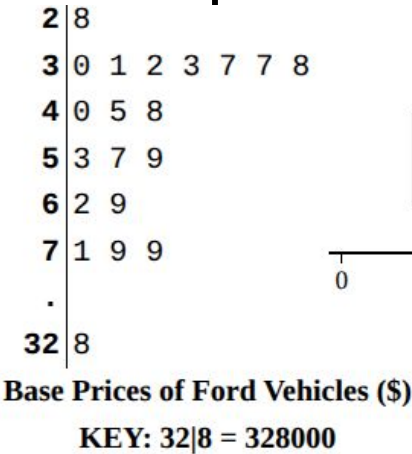
Dotplot



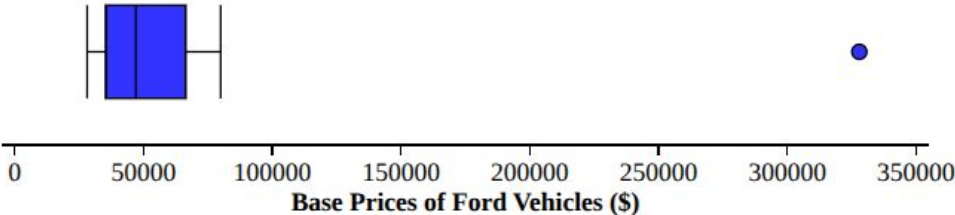
Histogram



Stemplot



Box and Whisker Plot



Describing the Data

The base price of all current, street legal Ford vehicles is the context.

The Shape of the data is skewed right because the mean is larger than the median.

There is one outlier in the data set. (The Mustang GTD at \$328,000)

The median is the center. The median is \$47,062.50.

The range of the data set is \$299,855.

Ford Maverick Percentile

Price: \$28,145

$$1/20 \times 100\% = 5\%$$

The Ford Maverick is at the 5th percentile of the price of Ford vehicles. 5% of Ford vehicles are the same price or less expensive than the Ford Maverick.

Ford Maverick Z-Score

$$Z\text{-score} = (28145 - 63371.75) / 64466.80$$

$$Z\text{-score} = -35226.75 / 64466.80$$

$$Z\text{-score} = -0.546$$

The price of the Ford Maverick is 0.546 standard deviation below the mean.

Conclusion

In this unit, I learned how to collect and interpret data. I learned how to make different types of graphs. I learned how to describe data using the median, mean, SD, shape, and range. I learned about z-scores and what percentiles mean.

Work Cited

<https://www.ford.com/>

<https://www.caranddriver.com/ford/mustang-gtd>

https://stapplet.com/quant1v_single.html

