Shopify Intern Challenge

Answers for Question #1:

1a.

In this case, the mean ($3,145.13) was used to report the AOV. That is not the best metric to use for this dataset as there are many outliers/extreme values. The range of order amounts is $90 to $70k, which shows how widely distributed the data is.

1b.

Since there are outliers in the data, the median would be a more robust metric to use to evaluate the AOV.

You can also use the mean if you remove the outliers. This can be done by using the Inter Quartile Range (IRQ) approach. IRQ is the difference between the 75th and 25th percentile and it can be used to find the upper and lower bounds of a dataset. Any values less than the lower-bound and greater than the upper-bound will be your outliers. You can remove these outliers and determine the mean of the new dataset to get a more accurate AOV.

1c.

If you evaluate the AOV using the median of the original dataset, the AOV would be $284.

If you evaluate the AOV using the mean with outliers removed, the AOV would be $293.73.

Answers for Question #2:

2a. How many orders were shipped by Speedy Express in total?

54 orders were shipped by Speedy Express in total.

```
SELECT
COUNT(ShipperID)
FROM Orders
WHERE ShipperID == 1;
```

2b. What is the last name of the employee with the most orders?

Peacock was the last name of the employee with the most orders (40).

```
SELECT employees.LastName, COUNT(*)
FROM orders
JOIN Employees ON orders.EmployeeID = employees.EmployeeID
GROUP BY employees.LastName
ORDER BY COUNT(*) DESC
limit 1;
```

2c. What product was ordered the most by customers in Germany?

Boston Crab Meat is the most ordered product by customers in Germany (160 total).

```
SELECT products.ProductName, SUM(Quantity) AS Total_Orders
FROM Orders, OrderDetails, Customers, Products
WHERE customers.Country = "Germany" AND orderdetails.OrderID = orders.OrderID   AND orderd
etails.ProductID = products.ProductID AND customers.CustomerID = orders.CustomerID
GROUP BY products.ProductID
ORDER BY Total_Orders desc
```