Name: $\qquad$

## Starbucks Pricing

## Background

Starbucks is seeking to introduce the "Trenta" - their 30 oz size of any beverage.
As they are deciding on prices, two executives are arguing over which should be more expensive -- the Caffe Misto or the Full-Leaf Brewed Tea.

## Task

Recommend a price for the Caffe Misto Trenta and for the Full-Leaf Brewed Tea Trenta. Support your solution using sound mathematical reasoning.

## Resources

Starbucks currently offers the following sizes:
-Tall $=12 \mathrm{oz}$ (like a small size)
-Grande $=16 \mathrm{oz}$ (like a medium size)
-Venti $=20$ oz (like a large size)

Here is a portion of the current menu -->

With your group, come up with initial estimates for the prices. Write them below.

Caffe Misto Trenta (30 oz.) estimated price:

Full-Leaf Brewed Tea Trenta (30 oz.) estimated price:


## Group Accountability

Demonstrate adequate mathematical reasoning to support your recommendation.

## Individual Accountability

Any member of the group should be able to explain the logic behind any of the conclusions that the group has made.

## Part 1: Plot points and Label Axes



## Extension \#1

1. Do you see any patterns? If so, what do you see?
2. How does plotting points help you to determine the prices for the new drink size?
3. Predict a reasonable price for a venti sized Café Misto and a venti sized Full-Leaf Brewed Tea.
4. At what size do you think that the Tea and the Caffe Misto should have the same price? Back up your argument using sound mathematical reasoning.

## Part 2: Writing an Equation

## Extension \#2

1. Write an equation for the Café Misto.
2. Write an equation for the Full-Leaf Brewed Tea.
3. What do the slope and $y$-intercept represent in each situation?

Slope:

Y-int:
4. What does rate of change mean in the context of this problem?
5. Use your equations to predict the prices of new "Trenta" sized variations of the two drinks. Show mathematical reasoning.
"Café" "Tea"
6. Do your predictions agree with the graph you generated, if we followed the pattern? Explain.

## Word Bank

| Line | Ordered Pair | X-Value | Y-Value |
| :--- | :--- | :--- | :--- |
| Rate | Ounce(s) | Dollars | Independent Variable |
| Dependent Variable | Input | Output | Equation |
| Graph | Model | Forecast | Predict |
| Solve | Linear | Function | Slope |

