Example 1:

Taxi Company A
You are visiting Baltimore MD, and Taxi Company A charges a flat fee of $3.00 for using the taxi and an additional $0.75 per mile. Write an equation that you could use to find the cost of a taxi ride in Baltimore, MD.

__X__ = the # of miles __Y__ = the cost.
Equation: $y = .75x + 3$

x	y
0	3
8	9

### Taxi Company B
You are visiting Baltimore MD, and Taxi Company B charges a flat fee of $5 for using the taxi and an additional $0.50 per mile. Write an equation that you could use to find the cost of a taxi ride in Baltimore, MD.

__X__ = the # of miles and __Y__ = the cost.
Equation: $y = .50x + 5$

x	y
0	5
10	10

Graph both equations on the following grid. Use an interval of 1 on both axes.

Taxi A vs. Taxi B — Total Cost vs Number of Miles
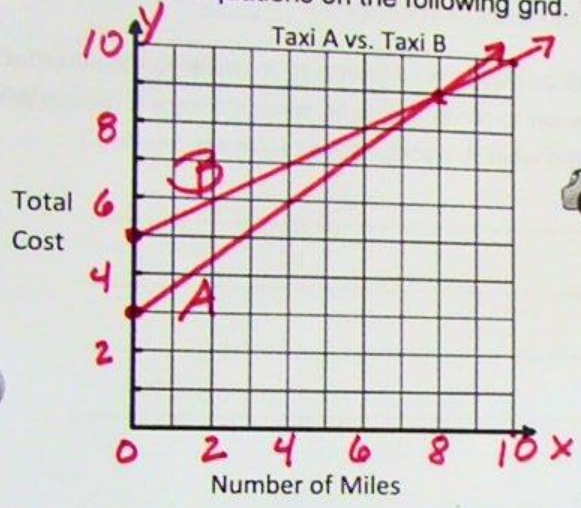
1) Name the point of intersection: $(8, 9)$ (x, y)
2) What does the point of intersection mean to the situation? (Include what each value means, what it means if more miles are travelled and what it means if less miles are traveled.)

For 8 miles both companies charge $9. A is cheaper for less than 8 miles.

Example 2:

Brady the Plumber
Brady, a plumber, charges a fee of $120 to make a house call. He also charges $10.00 an hour for labor. Write an equation that you could use to find the amount Brady charges for a house call based on the number of hours of labor.

__X__ = # of hours __Y__ = the cost.
Equation: $y = 10x + 120$

x	y
0	120
4	160

Valeria the Plumber
Valeria, a plumber, charges a fee of $100 to make a house call. She also charges $15.00 an hour for labor. Write a equation that you could use to find the amount Valeria charges for a house call based on the number of hours of labor.

__X__ = # of hours __Y__ = the cost.
Equation: $y = 15x + 100$

x	y
0	100
5	175

Graph both equations on the following grid. Use an interval of 1 on the x-axis and 20 on the y-axis.

Plumber Bills — Total Cost vs Number of Hours
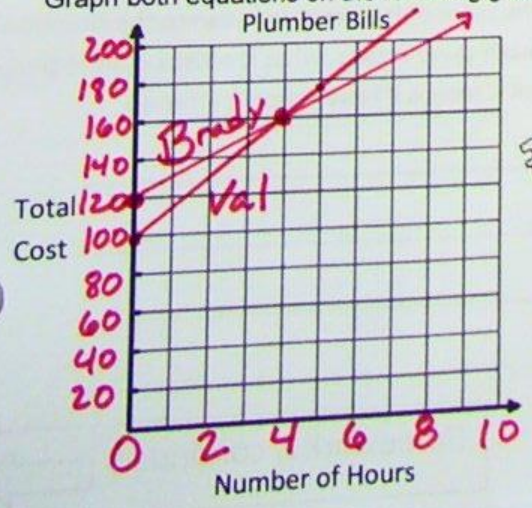
1) Name the point of intersection: $(4, 160)$
2) What does the point of intersection mean to the situation? (Include what each value means, what it means if more hours are needed and what it means if fewer hours are needed.)

For 4 hours both plumbers charge $160. Val is cheaper for less than 4 hours.