

rate (per)

Name: _____

$y = mx + b$ Flat Fee

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	y
0	3
8	9

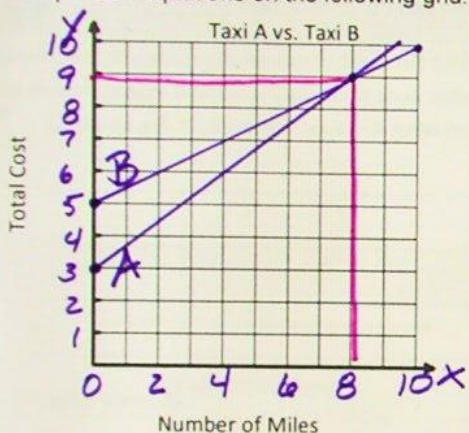
m = the # of miles C = the cost.
 Equation: $C = 0.75m + 3$

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	y
0	5
10	10

Equation: $C = 0.5m + 5$

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



- 1) Name the point of intersection: $(8, 9)$
- 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.)

Both companies cost \$9 for 8 miles. For fewer miles, A is cheaper. For more miles, B is cheaper.

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 Bob charges for a house call based on the number of hours of labor.

x	y
0	120
4	160

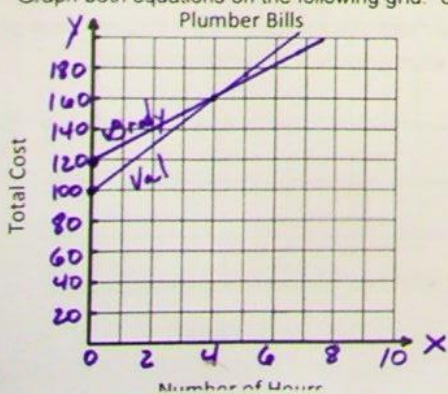
X = # of hours Y = the cost.
 Equation: $Y = 10x + 120$

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 an equation that you could use to find the amount Valeria charges for a house call based on the number of hours of labor.

x	y
0	100
5	175

Equation: $Y = 15x + 100$

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



- 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. For fewer hours, Valeria is cheaper. For more hours, Brady is cheaper.