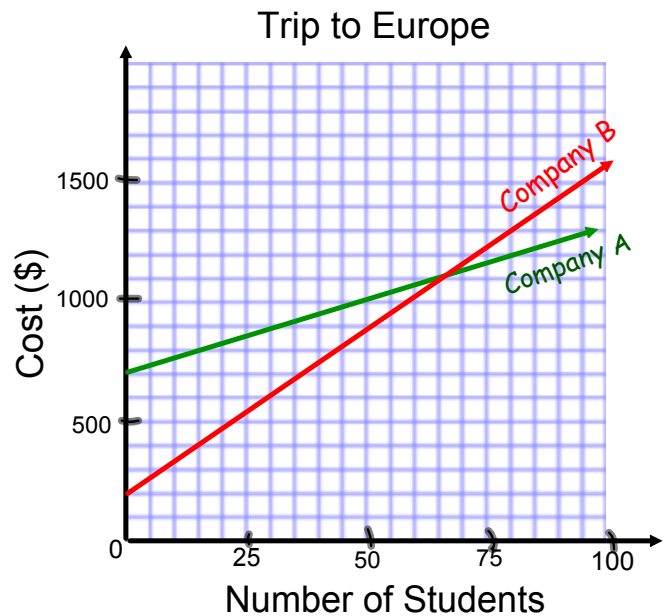


4.8 Two Linear Relations

Ex. 1 Choosing the better deal.

A group of teachers at your school will be taking students on a trip to Europe. There are two companies that offer European trip packages. The teachers gathered some cost information as shown in the graph.

a) How should the teachers decide which company to hire?

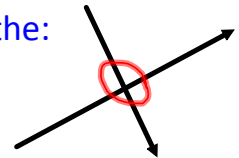


NOTE:

The point at which two lines intersect is called the:



point
of
intersection.



b) What assumptions have you made?

c) Write an equation for each company that represents the cost, C , in dollars, for the amount of students, n , going on the trip.

Ex. 2 Cost and Revenue.

Student Council is planning a dance.

The cost to throw the dance will be \$100 for decorations, \$500 for the DJ, plus \$5 per person for food and drinks.

a) Write an equation that relates the total **cost**, C , in dollars, to the number of people, n , attending the dance.

Is this direct or partial variation?

b) **Revenue** is the money Student Council receives from the tickets they sell. Tickets to the dance cost \$6 each. Write an equation that relates the total revenue, R , in dollars, to the number of tickets sold, n .

Is this direct or partial variation?

c) Make a table of values for each equation.

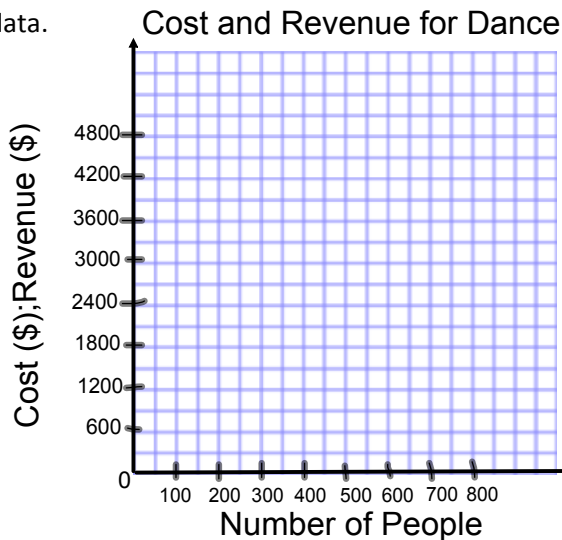
→ $C = 5n + 600$

# of people	0	100	200	300	400	500	600	700
Cost (\$)								

→ $R = 6n$

# of people	0	100	200	300	400	500	600	700
Revenue (\$)								

d) Graph the data.



e) Where do the lines intersect? What does this point represent?

NOTE

→ This is called the breakeven point.



Homework

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**Test on next
Wednesday**

TASK is next Thursday.
All notes can be used!