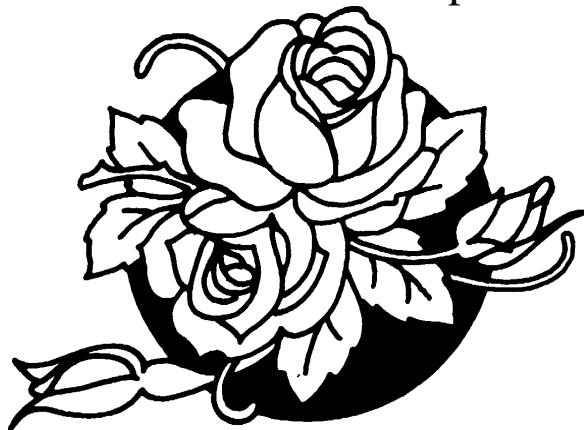


Activity 1: Valentine's Day Idea

The school's drill team has contacted several flower distributors and has narrowed the choice to two companies.



Option 1: **Roses-R-Red** has offered to sell its roses for a fixed down payment of \$20 and an additional charge of 75 cents per stem.

Option 2: **The Flower Power** has offered to sell its roses for a fixed down payment of \$60 and an additional charge of 50 cents per stem.

Which is the more economical offer?

Activity 2: Using Tables to Find the More Economical Offer

From the description of the two offers, complete the chart to find an algebraic rule that will determine the cost of n roses.



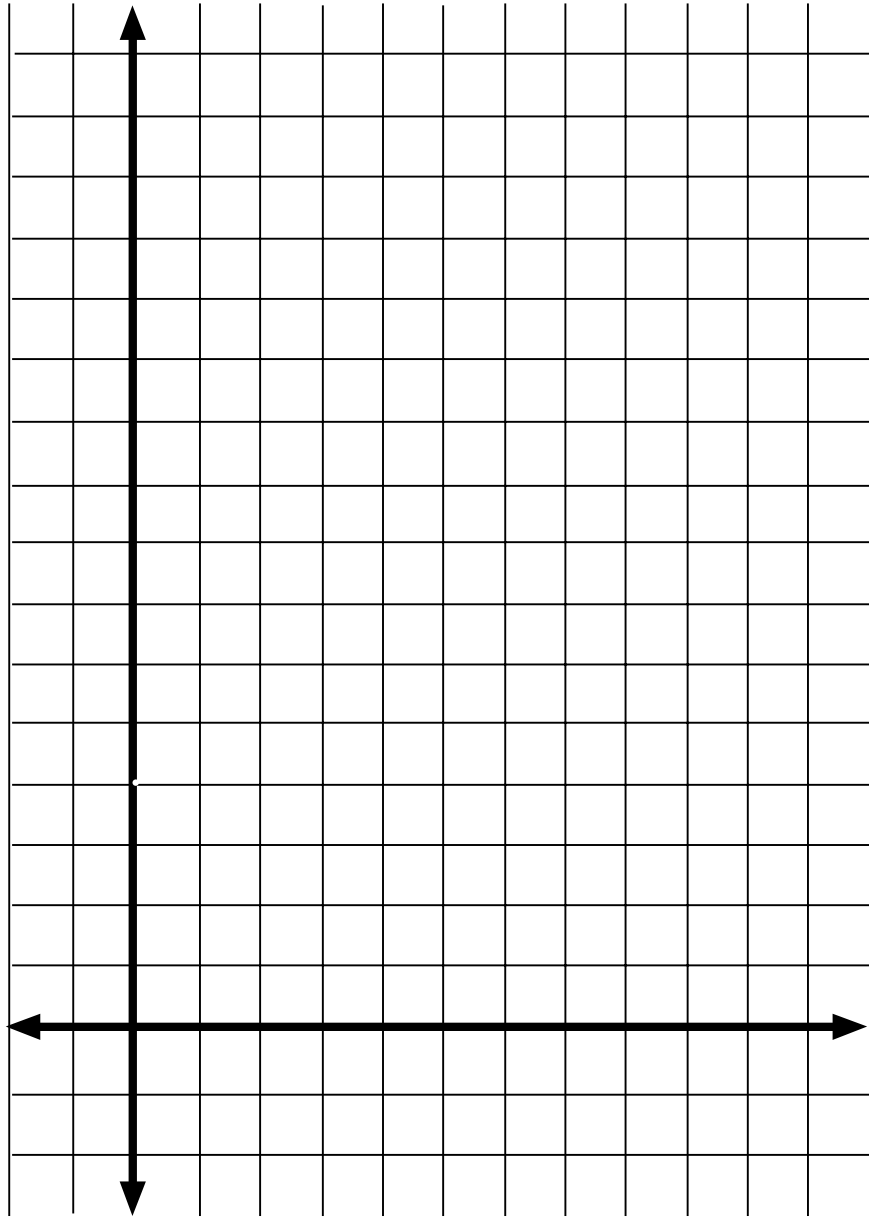
Number of Roses	Process Column (Roses-R-Red)	Cost at Roses-R-Red	Process Column (Flower Power)	Cost at Flower Power
10				
20				
30				
60				
90				
120				
150				
180				
210				
240				
1000				
n				

1. Write a sentence and a function rule for the cost of roses from Roses-are-Red.
2. Write a sentence and a function rule for the cost of roses from Flower Power.

3. What patterns do you observe from the table of values?
4. What happens to the cost of the roses as the number of roses purchased increases? What would a graph of this relationship look like?
5. How many roses can you buy from Roses-are-Red for \$65.00?
6. How many roses can you buy from Flower Power for \$65.00?
7. Which company offers the better deal?
8. Is there a point where the two flower dealers charge the same total amount? If so, what is the charge? If not, why do the costs never equal?
9. Write an equation that represents the point where the two flower shops charge the same amount.

Activity 3: Using Graphs to Find the Better Offer

1. Find an appropriate viewing window for the graphs of both functions. Sketch both functions here and label.



2. Justify your viewing window choice:

x_{\min} :

x_{\max} :

y_{\min} :

y_{\max} :

