**Notes**

1. The following are formulas predicting future raises for four different groups of union employees. *N* represents the number of years from the start date of all the contracts. Each equation represents the salary that will be earned after *N* years.

|  |  |
| --- | --- |
| Group A: |  |
| Group B: |  |
| Group C: |  |
| Group D: |  |

* 1. Will group A ever earn more in a given year than group B? Explain.
	2. Will group C ever catch up to group A? Explain.
	3. Will group D ever catch up to group C? Explain.
	4. If the answer in part c was yes, after how many years will it take for group D to catch up to group C AND at what salary?
1. A small paint dealer has determined that the demand function for interior white paint is:

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where *p* is the price of paint in dollars/gallon and *q* is the quantity of paint in gallons. Let *q* be the independent variable and let *p* be the dependent variable.

* 1. Determine the vertical intercept.

* 1. Determine the horizontal intercept.
	2. Sketch the demand function.
	3. Complete the following sentence:

*The demand function says that a consumer is willing to buy more paint when…*

* 1. The supply function for interior white paint is



What price per gallon would suppliers be willing to sell the paint for if they supply

1. 0 gallons of paint
2. 80 gallons of paint
	1. Sketch the supply function on the same graph as the demand function above.
	2. Complete the following sentence:

*The supply function says that a supplier is willing to sell more paint when…*

* 1. Find the intersection point and interpret its meaning.
1. **Tables & Chairs**  A small company manufactures unfinished tables and chairs. Each table requires 3 hours of sawing and 1 hour of assembly. Each chair requires 2 hours of sawing and 2 hours of assembly. The company is able to complete 12 hours of sawing and 8 hours of assembly work each day. Find the number of tables and chairs the company can make daily.