Example of Straight-line depreciation

- The book value of an asset for a company is sometimes calculated by depreciation (making something less valuable) using the straight-line depreciation method. This means that the asset (i.e. a piece of equipment, like a car or printing machine) has less value every year by the same amount (that's why they call it straight line).
- For example if a company purchases a fleet of cars for $28,000 per car and wants to use the straight line depreciation method for the car over a period of 7 years, it would do the following:

$$\frac{\$28{,}000}{7} = \$4{,}000 \; but\ it\ should\ be\ negative, why? \_\_\_\_\_$$

- This means the car would depreciate by -$4,000 per year for 7 years until the car would have no value. What does the -$4000 represent?_____

- How would you build a model (linear equation) for the book value V of each car as a function of it's age, x? (where does it begin (b) & how does it move (m): y = mx + b)

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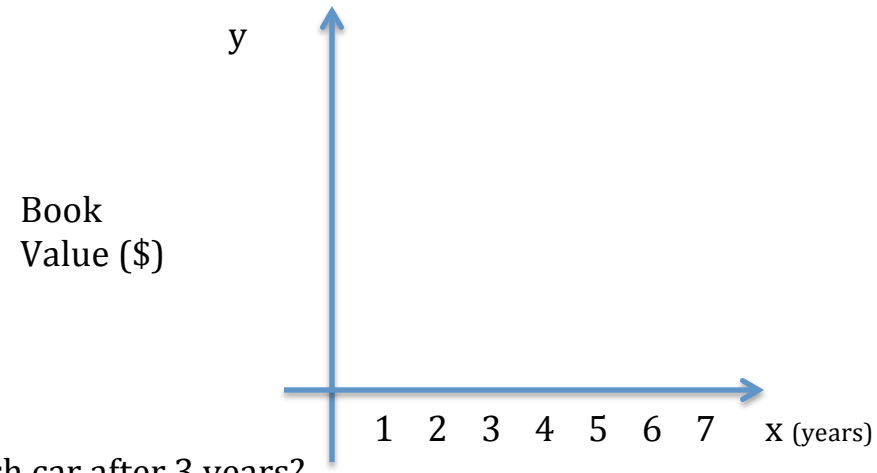
- What is the domain of the function that is implied by the above information?

- Graph the function



- What is the book value of each car after 3 years?

- Interpret the slope

- When will the book value of each car be $8,000?
(HINT: you are given V = 8k , now look for x, when)

Supply and Demand problem

- **quantity supplied**: means what a company can or is willing to supply of that product at a given price

- **quantity demanded**: means what consumers are willing to buy at a given price

S = quantity supplied
D = quantity demanded

The S function (qty. supplied) for cellular phones (p: price of phone) each month is:

$$S(p) = 60p - 900$$

The D function (qty. demanded) for cellular phones (p) each month is:

$$D(p) = -15p + 2850$$

- Determine the equilibrium price (where do supply and demand meet – system of equations)

- What are the prices which qty demanded is greater than qty supplied: $S(p) > D(p)$

- Graph S(p) and D(p) and label equilibrium price