

Linear Models- Word Problems



Overview of problems



Example Set: A

A small business is trying to forecast how many widgets they will sell in the month of Dec. Use the table to:

- 1. Write a linear model for the sales of widgets*
- 2. Determine how many widgets will be sold in Dec.*

Month	# of widgets sold
JAN	2000
Feb	2250
MAR	2500
Apr	2750



Example Set: B

The captain of a cargo ship needs to know how many hours the ship can remain at sea before the fuel tank gets below 50% full. The fuel tank's capacity is 100,000 gals. Currently the tank is at 85% full. The ship's engine uses 600 gal/ hr.

- 1. Write a linear model to describe the situation*
- 2. How many hours can the ship run before the fuel level goes below 50%*

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Overview of problems- KEY



Example Set: A

A small business is trying to forecast how many widgets they will sell in the month of Dec. Use the table to:

$$\text{Widget Sales} = 250 \text{ month} + 2000$$

4750 widgets in Dec.

1. Write a linear model for the sales of widgets
2. Determine how many widgets will be sold in Dec.

Month	# of widgets sold
JAN	2000
Feb	2250
MAR	2500
Apr	2750



Example Set: B

The captain of a cargo ship needs to know how many hours the ship can remain at sea before the fuel tank gets below 50% full. The fuel tank's capacity is 100,000 gals. Currently the tank is at 85% full. The ship's engine uses 600 gal/ hr.

1. Write a linear model to describe the situation
2. How many hours can the ship run before the fuel level goes below 50%

$$\text{Fuel level} = -600 \text{ Engine Hours} + 85,000$$

$$58.\overline{3} \text{ hours}$$