

The director of your service club hears you are a business student so puts you in charge of the envelope stuffing department. On Monday, they took 1 hour to stuff 300 envelopes, on Tuesday they took 2 hours to stuff 660 envelopes, and on Wednesday they took an hour and a half to stuff 480 envelopes.

(a) How many envelopes do they stuff per minute?

Why is there a difference? They seemed to have the same work ethic each day.

The director needs 48 envelopes stuffed in 10 minutes. Is your staff up to the task? Actually by the time you ask them, it'll be 9 minutes!!

(b) What do you think? If they work at the same rate, will 48 envelopes be done in 9 minutes? No peeking!

Well, maybe it is a bad day. It took them 18 minutes. Did they sabotage you on your rise to glory within the club? Well, one last chance: the director asks you how long 900 envelopes would take (again assuming they work at about the same rate).

(c) How long will it take them to stuff 900 envelopes?

What is going on? How do we actually predict the rate?

Accounting keeps track of assets (goods), but assets are also tax liabilities (bads). The value of an asset, like a printing press, depreciates over time (a brand new one is worth more than an old junky one). A very simple but standard method of depreciating an asset is called **linear depreciation**.

A printing press is worth \$70k initially, but over 5 years will be (linearly) depreciated to its scrap value of \$30k.

(a) How much value does it lose over the 5 years?

(b) How much does it lose each year?

(c) How much is it worth after one year? Two years?

(d) Draw a graph of its value over the first five years.

