Name: _____   Date: _____   Period: _____

Complete each of the following problems and graph the given data. Once your graph is complete, answer the corresponding questions.

1. Jarred opened a jewelry company by taking out a personal loan for $100,000. After five years, he owes $75,000. Graph the data.

Part A   What is the function rule that represents Jarred's loan amount?   _____

Part B   What does the slope represent?   _____

Part C   What does the y – intercept represent?   _____

Part D   How long will it take Jarred to pay off his loan? Explain your answer

2. Emily started a coffee shop with $200. After three weeks she showed a profit of $2,000. Down the road, Erica also opened a coffee shop. She started the shop with $600 and after three weeks showed a profit of $1,200. Graph a linear function for each coffee shop.

Part A   What is the function rule for Emily's company?   _____   Erica's?   _____

Part B   Who's business is more profitable? Explain

_____

_____

Part C   After how many weeks did both companies show the same amount of profit? Explain.

_____

_____

3. A small store sells handmade scarves in New Paltz. In 2012, they started the year with $10,000. By March they showed a loss, with a total of $7,000 left in their account. At the beginning of the year, an online company opened selling similar scarves. They started with $1,000, and by April had $3,000. Graph a linear function for each.

Part A   What is the function rule for the store in New Paltz?   _____   Online store?   _____
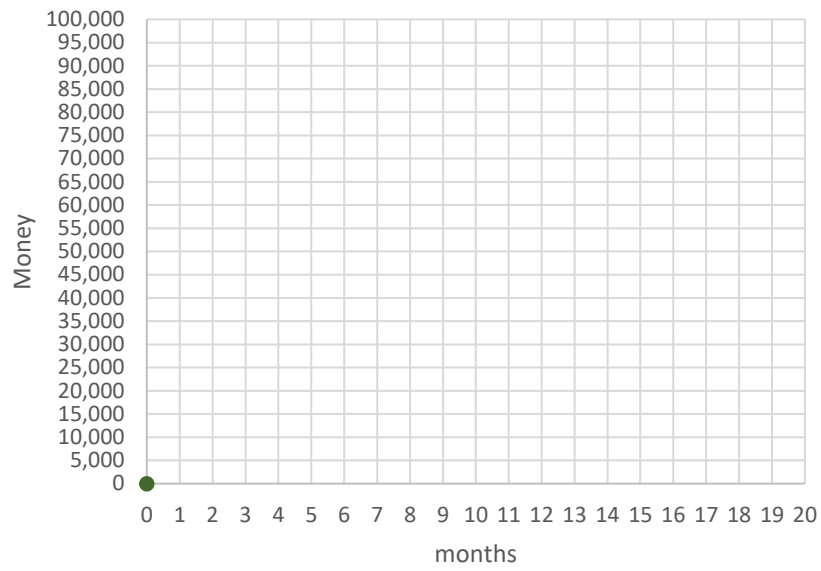
Part B   What does the slope for the New Paltz shop represent?   _____

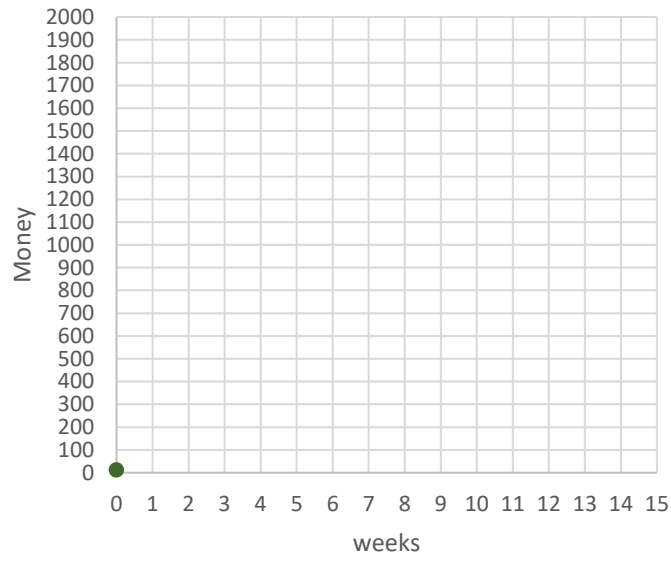**Part C**   What does the slope for the online store represent?   _____

Part D   During which month does each of the companies show the same amount of profit? Explain.

_____

_____

1.

2.

3.