Unit 1 Milestone Review Thought Questions

1. An amount of $1,000 is deposited into a bank account that pays 4% annual interest. This formula gives the amount of money in the account after *t* years.

$$A = 1{,}000(1 + 0.04)^t$$

How does (**1 + 0.04**) in the equation affect the amount in the bank account?

2. The number of calories burned during exercise depends on the activity. The formulas for two activities are given.

C* = 0.012*mt and ***C* = 0.032*mt***

a. If one activity is walking and the other is running, identify the formula that represents each activity. Explain your answer.

b. What value would you expect the coefficient to have if the activity were reading? Include units and explain your answer.

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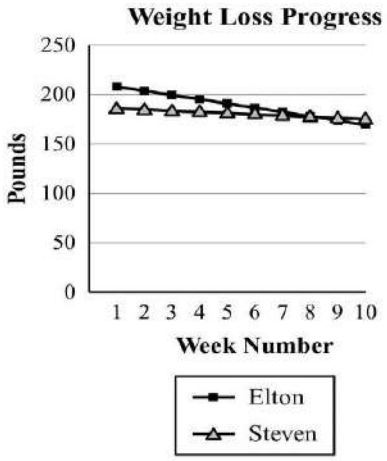
3. A social media website currently has 1,000 members. The number of members on the website triples every month. After how many months will the website have more than 1,000,000 members?

Does this number grow arithmetically or geometrically?

Describe two approaches you can use to solve this problem.

4. Elton loses 5 pounds each week. He started at **218** pounds on Week 1. Steven was **186** pounds on Week 1, and he loses 1 pound each week. The graph shows Elton's and Steven's weights by week.



a. What equations can be used to represent Elton's and Steven's weight loss?

b. After how many weeks do both Elton and Steven weigh the same number of pounds?

5. Mark has $14 to buy lunch for himself and his sister. He wants to buy at least one sandwich and one drink. Sandwiches cost $5 and drinks cost $2. Write three inequalities to represent the three constraints on the number of sandwiches and drinks Mark could buy.

Can Mark buy 2 sandwiches and 2 drinks?