

Unit 3 Mini Test Story Problems Practice

1. You have met a pixie and she offers you two options.

Choice A: You can have \$10 and a 3% increase every year for 20 years.

Choice B: You can have \$25 with an extra \$10 every year for 20 years.

Find the total amount for Choice A and Choice B. Which one would you choose?

$$\text{Choice A } \sum_{k=1}^{20} 10(1.03)^{k-1} = \$268,70$$

$$\text{Choice B } \sum_{k=1}^{20} 25 + 10(k-1) = \$2,400$$

2. Every day Amity's bakery sells 3 more cookies than they did the day before. If they sell 3 cookies on the first day, how many cookies would they have sold after 30 days?

$$\sum_{k=1}^{30} 3 + 3(k-1) = 1,395 \text{ cookies}$$

3. Sarah has made a deal with her sons, William and Phillip. For everyday William behaves, he will get four more Skittles. Everyday Phillip is good, he will get twice as many Skittles as the day he had before. William starts with 30 Skittles and Phillip starts with 1. How many days will it take for Phillip to have more Skittles than William?

Will $\sum_{k=1}^2 30 + 4(k-1)$

5 7 8 10 15
190 294 352 480 870

Phil $\sum_{k=1} 1 \cdot 2^{k-1}$

31 10 23
7 8 9
127 255 511

It will take 9 days