Name: Date: Period:

Additional challenging problems are problems involving future and past ages. The best way to solve these is to follow these steps.

> Step 1: Set up initial "Let" statements as **Current Ages**
> Step 2: Set up **Future Age/Past Age** "Let" statements depending on wording in the problem
> Step 3: Use the appropriate "Let" statements for your equation
> Step 4: Answer the question with a sentence

Example 1: Carol's age is triple her daughter's age. In eight years, the sum of their ages will be 72. How old are they now?

Step 1:	**Step 2:** In EIGHT YEARS	**Step 3:** Equation	**Step 4:** Statement
Let x = daughter's **current** age Let 3x = Carol's **current** age	Let x + 8 = daughter's **future** age Let 3x + 8 = Carol's **future** age	$4x + 16 = 72$ $4x = 56$ $x = 13$	Carol is 39 and her daughter is 13.

Example 2: Arun is 4 times as old as Anusha is today. Six years ago, Arun was 6 times as old as Anusha. How old are they today?

Step 1:	**Step 2:** SIX YEARS AGO	**Step 3:** Equation	**Step 4:** Statement
Let x = Anusha's **current** age Let 4x = Arun's **current** age	Let x - 6 = Anusha's **past** age Let 4x - 6 = Arun's **past** age	$4x - 6 = 6(x - 6)$ $4x - 6 = 6x - 36$ $-6 = 2x - 36$ $30 = 2x$ $15 = x$	Anusha is 15 years old and Arun is 60 years old.

**Caution: Be careful of questions with future AND past ages.

Step 1: Current Age Statements	**Step 2:** Past/Future Age Statements	**Step 3:** Equation	**Step 4:** Statement

Use the template above to solve these problems in your notebook.

1. Jake is twice as old as Lucy. In three years, the sum of their ages will be 54. How old are they now?

2. Diane is 23 years older than her daughter Amy. In 6 years, Diane will be twice as old as Amy. How old are they now?

3. A limestone statue is 56 years older than a marble statue. In 12 years, the limestone will be three times as old as the marble statue. Find the present age of the statues

4. Sally is 4 years older than John. 8 years ago, Sally was twice as old as John. What are the ages of Sally and John?

5. Matthew is 5 times as old as Armani today. 15 years ago, Matthew was 10 times as old as Armani. How old is Armani today?

6. The sum of the ages of Chris and Adam is 56. Four years ago, Chris was 3 times as old as Adam. How old are they now?

7. Five years ago, John's age was half of the age he will be in 8 years. How old is he now?