

## GROWING UP

### Performance Standard (8C/8B/6B).B

Solve a problem involving quantitative change in a person's growth accordingly:

- *Mathematical knowledge*: Represent correct answer in repeated addition number sentences and multiplication number sentences.
- *Strategic knowledge*: Use all the components of the problem; use strategies correctly in the drawing and/or recording.
- *Explanation*: Explain completely and clearly what was done and why it was done.

### Procedures

1. *In order to investigate, represent, and solve problems using number facts, operations, and their properties, algorithms, and relationships (6B), interpret and describe numerical relationships using tables, graphs, and symbols (8B), and solve problems using systems of numbers and their properties (8C)*, students should experience sufficient learning opportunities to develop the following:
  - Connect repeated addition to multiplication.
  - Describe and compare quantitative change.
  - Solve problems and justify solutions using patterns.
2. Have students review and discuss the task to be completed and how it will be evaluated. This evaluation can be given as a whole class task, but each student should complete the task independently. Teacher should decide whether the problem needs to be read to the students.
3. Use the "Growing Up" assessment task worksheet. Have students solve the problem and explain their thinking. Then ask them to write two number sentences to match their answer, one using addition and one using multiplication. Tell them they may also use drawings to complete the task.
4. Evaluate each student's performance using the rubric as follows and use the guide on the rubric to determine the performance level:
  - *Mathematical knowledge*: Check the accuracy of the answer and the recording of the number sentences (e.g. Does the student remember to count on from 19? Does the student include units in the solution?).
  - *Strategic knowledge*: Observe the strategies used in the drawings and/or recordings. Are all of the components of the problem evidenced in their solution?
  - *Explanation*: Judge the clarity and quantity of the responses communicated.

### Examples of Student Work follow

### Resources

- Copies of "Growing Up" task sheet
- Mathematics Rubric

### Time Requirements

- 20 - 30 minutes

### ASSESSMENT (8C/8B/6B).B

NAME \_\_\_\_\_ DATE \_\_\_\_\_

### GROWING UP

**When Rosa was born, she was 19 inches tall. On her first birthday she was 21 inches tall, and on her second birthday she was 23 inches tall. If she keeps growing in this rate, how tall will she be when she is 10 years old?**

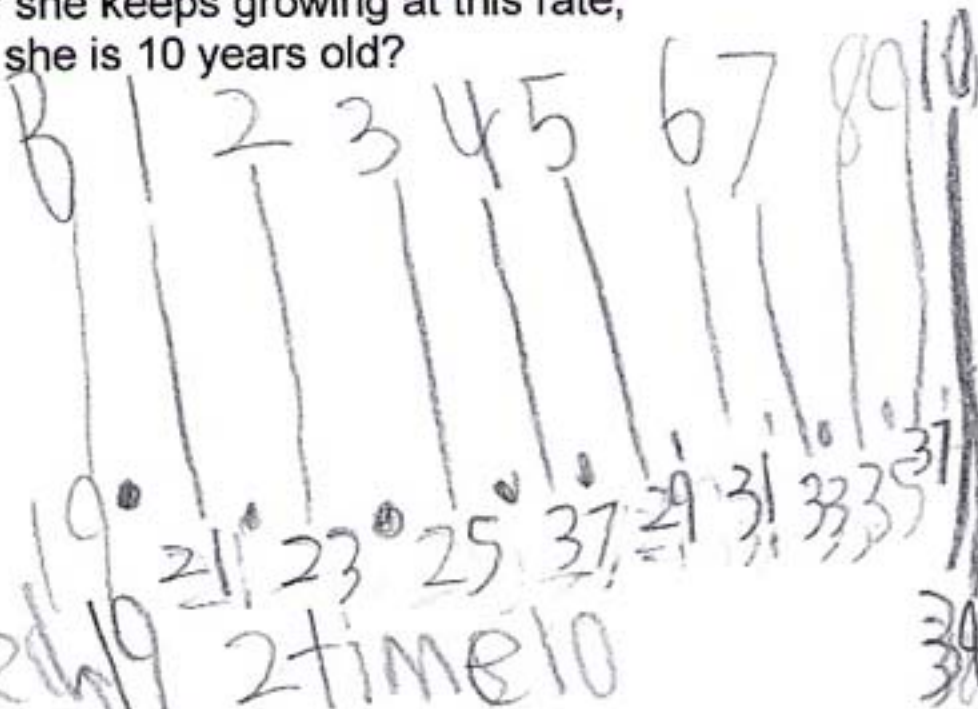
1. Show all your work to solve and explain your thinking.

2. Write two number sentences to match your answer, one using addition and one using multiplication.

### Growing Up

When Rosa was born, she was 19 inches tall. On her first birthday, she was 21 inches tall, and on her second birthday she was 23 inches tall. If she keeps growing at this rate, how tall will she be when she is 10 years old?

1. Show all your work.



2. Explain your work.

I counted from 19 2 times 10

3. Write an addition sentence to match your answer.

$$19 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 39$$

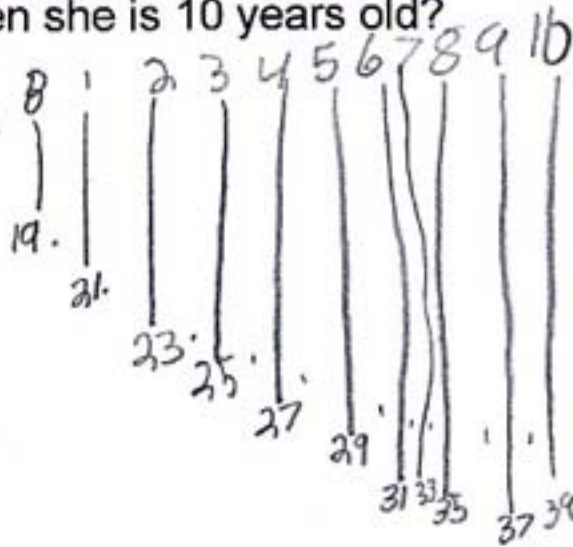
4. Write a multiplication sentence to match your answer.

$$19 + 10 \times 2$$

## Growing Up

When Rosa was born, she was 19 inches tall. On her first birthday, she was 21 inches tall, and on her second birthday she was 23 inches tall. If she keeps growing at this rate, how tall will she be when she is 10 years old?

1. Show all your work.



2. Explain your work.

*you started with 19 and added 2 for every year*

3. Write an addition sentence to match your answer.

$$19 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 39$$

4. Write a multiplication sentence to match your answer.

$$19 + 10 \times 2 = 39$$