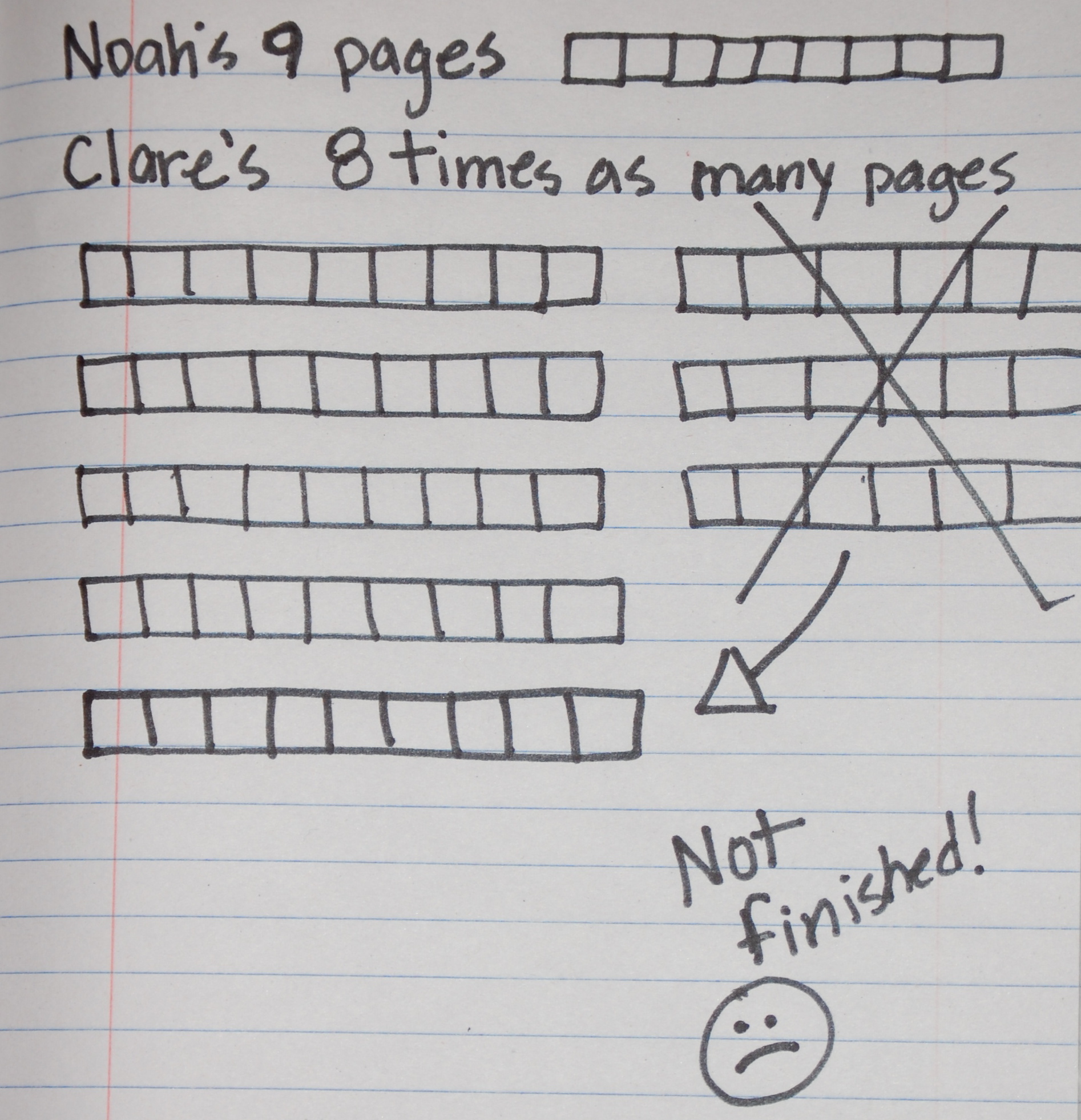
## Lesson 4: Solve Multiplicative Comparison Problems with Large Numbers

* Let’s represent and solve multiplicative comparison problems with larger numbers.

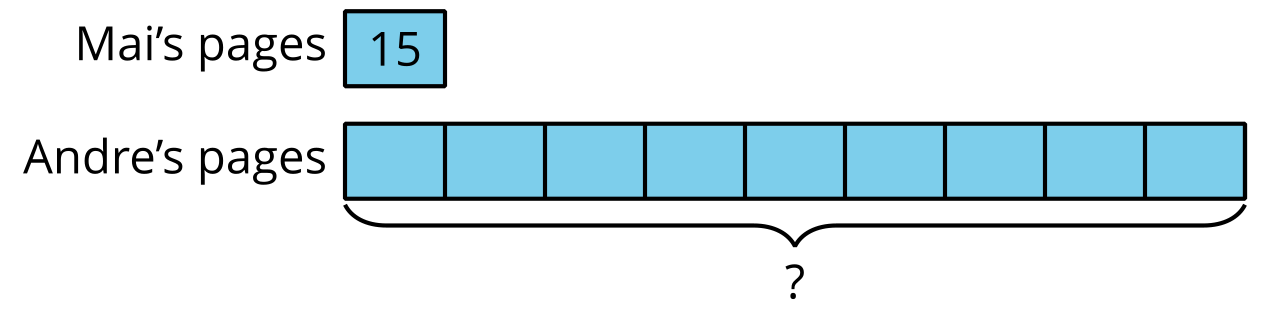
### Warm-up: Notice and Wonder: Too Many Times More?

What do you notice? What do you wonder?

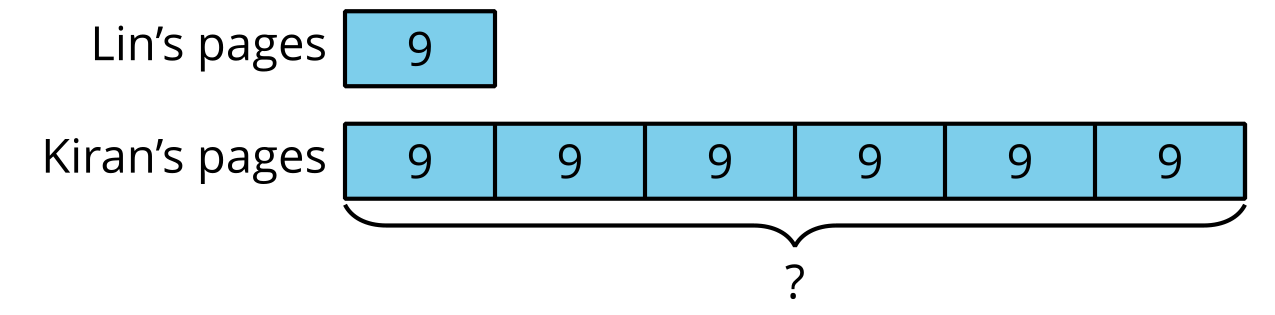


### 4.1: A New Kind of Diagram

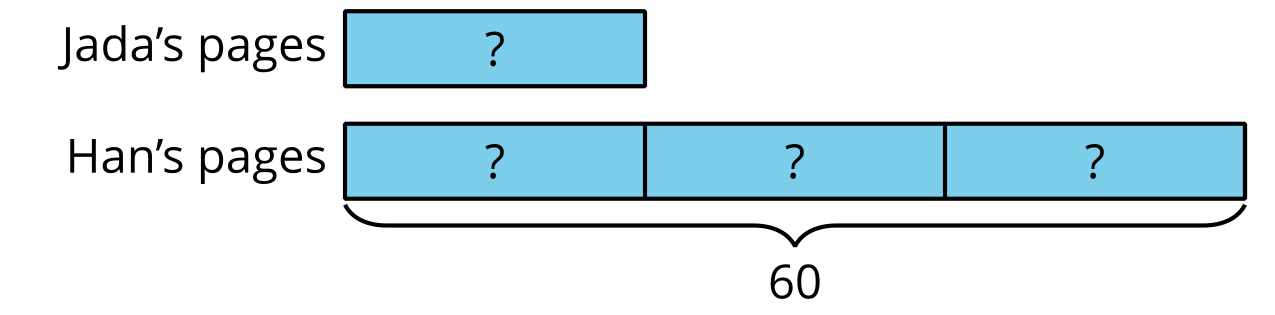
1. Mai and Andre compare the number of pages they read on the first day of the reading competition.

* 
* What would be a good estimate for the number of pages Andre read?

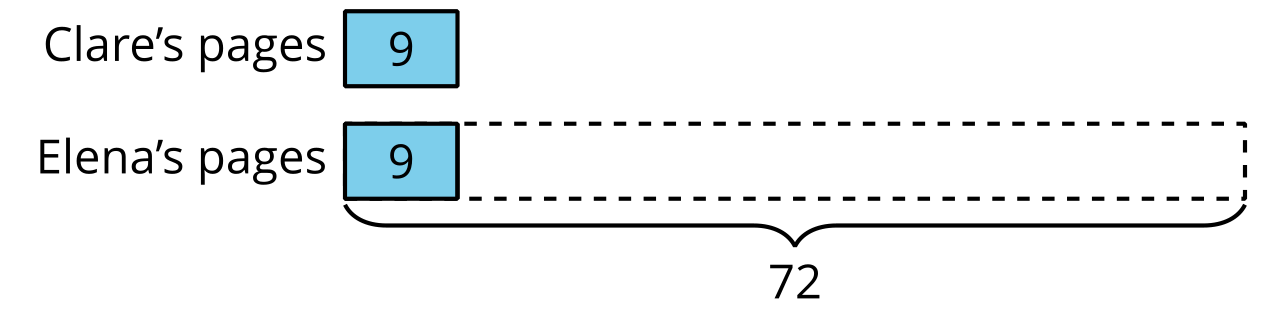
1. The diagram shows the pages Lin and Kiran read on one day of the reading competition.

* 
  1. Complete the statement and explain how you know.
  + Kiran read \_\_\_\_\_ times as many pages as Lin.
  1. Write a multiplication equation that compares the pages read by Lin and Kiran.
  2. How many total pages did Kiran read?

1. Jada read some pages. Han read 60 pages altogether.​​​​​​

* 
  1. How many times as many pages did Han read? Explain how you know.
  2. Write a multiplication equation to compare the pages read by Han and Jada. Use a symbol to represent the unknown.
  3. How many pages did Jada read? Explain how you know.

1. Elena read 72 pages. Clare read 9 pages.

* 
  1. How is this diagram different from the earlier diagrams?
  2. Write a multiplication equation to compare the pages read by Elena and Clare. Use a symbol to represent the unknown.
  3. How many times as many pages does Elena read as Clare?

### 4.2: Who Read More?

For each situation:

* Write an equation to represent the situation. Use a symbol to represent the unknown.
* Draw a diagram to show the comparison.
* Answer the question about the situation.

1. Diego read 8 times as many books as Lin read. Lin read 7 books.
   1. Equation:
   2. Diagram:
   3. How many books did Diego read?
2. Tyler has some books. Clare has 72 books, which is 12 times as many books as Tyler has.
   1. Equation:
   2. Diagram:
   3. How many books does Tyler have?
3. Noah read 13 books. Elena read 130 books.
   1. Equation:
   2. Diagram:
   3. Complete the statement:
   * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ read \_\_\_\_\_ times as many books as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ read.



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