NAME_____

DATE_____

Reading Challenge

Andrew and Kelly were reading the same book in class. Andrew asked Kelly what page she was on. Kelly said that Andrew would have to figure it out using these clues:

- When she put down the book for lunch, she noticed that the product of the two facing page numbers was 32,580.
- Kelly said that the last page she read was an odd number page.

What was the last page Kelly read before lunch?

CHALLENGE: Where must you open the book to make the product of the two facing pages 3660? Have you found a shortcut? Try to write about how you are doing these problems — how you begin, what you do next, etc.

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PLAN: Guess and check.

Note: Book pages are even number on left and odd number on right.

Odd number	Even number	product	comment
100	101	10,100	Too small
200	201	40,200	Too big
150	151	22,650	Too small
175	176	30,800	Too small
180	181	32,580	Correct!

ANSWER: Kelly was reading pages 180 and 181 when she put the book down for lunch. Since she said the last page she read was an odd page, she must have stopped on page 181.

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DISCUSSION:

Guess-and-Check Method:
- Younger students will use a guess and check method for this problem.
- Students should be encouraged to record data in a table as shown in the previous solution so that they can systematically work toward the solution.

General Form:
- Older students who are familiar with square roots should be encouraged to see this problem in its general form: the product of any two pages is $n(n+1)$ which is a bit more than n^2.
- If students take the square root of the product and ignore the decimal part of the answer, they will have found the even number (n). If they add one to n, they will have the odd number page. Students should check the product to verify correctness.
- Students should write problems for classmates to solve. This will allow students to use the general form method and verify its effectiveness.

ANSWER:
- The whole number part of the square root of 3660 is 60. This means the pages should be 60 and 61.
- The product of 60 and 61 is 3660.