Grade 3: A Walk in the Park

3.MD.D.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Oscar walked the perimeter of Maple Park. Emilia walked the perimeter of Redwood Park. How much farther did Emilia walk?

MAPLE PARK

REDWOOD PARK

138 yd

195 yd

138 yd

200 yd

180 yd

200 yd

200 yd
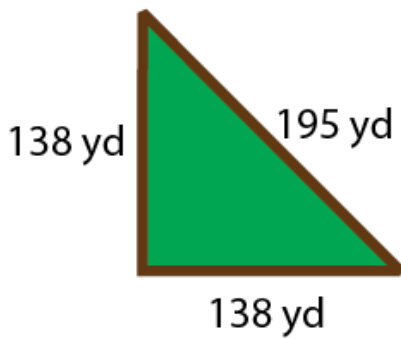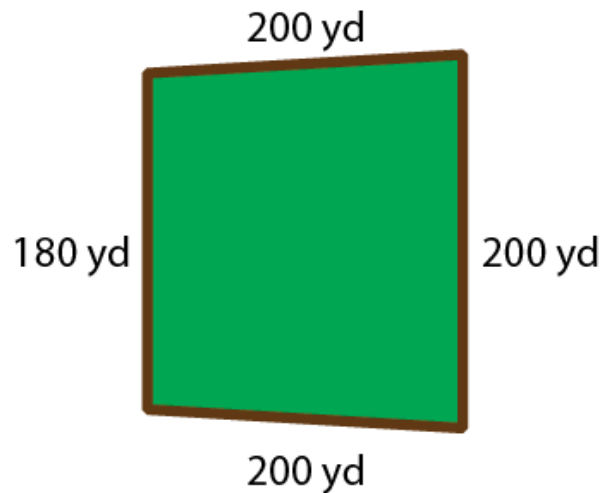
Answer: ☐ yards farther

Solution

Correct if student answers 309 yards farther.

Oscar walked a total distance

138 + 138 + 195 = 471 yards.

Emilia walked a total distance

200 + 200 + 200 + 180 = 780 yards.

Emilia walked 780 − 471 = 309 yards farther than Oscar.

Students might carry out these calculations in different ways.

- One approach is to apply the standard written algorithms three times: once to find the perimeter of Maple Park, once to find the perimeter of Redwood Park, and once to find the difference between the two:

  (Instead of stacking three addends 138, 138, and 195, some students will first add 138 + 138 to find 276, then add 276 + 195.)

- In grade 4, students are expected to be fluent with the standard algorithms as shown above. In grade 3 however, students may still be using more cumbersome (but to them, more transparent) written methods such as adding hundreds, then tens, then ones. The expectation at grade 3 is that students obtain their answers fluently (reasonably quickly without halting or struggling).
- Many students will add 200 + 200 + 200 + 180 mentally rather than using pencil and paper.
- Some students will notice shortcuts: for example, 276 + 195 is 5 less than 276 + 200, so the result is 476 − 5 = 471. Or 780 − 471 is 9 more than 771 − 471, so the result is 300 + 9 = 309.

Elaboration on Alignment

This task combines some measurement understanding of perimeter with fluency in adding and subtracting three-digit numbers. The numbers in the problem are chosen to invite a combination of algorithmic approaches grounded in rote skills plus opportunistic strategies based on algebraic thinking with numbers.

The shapes are colored green to suggest parkland or nature. The perimeter is made thick in order to accentuate the perimeter as a measurable attribute of the figures.
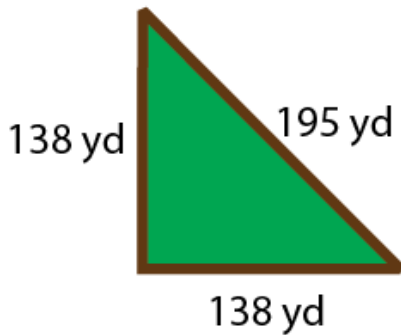
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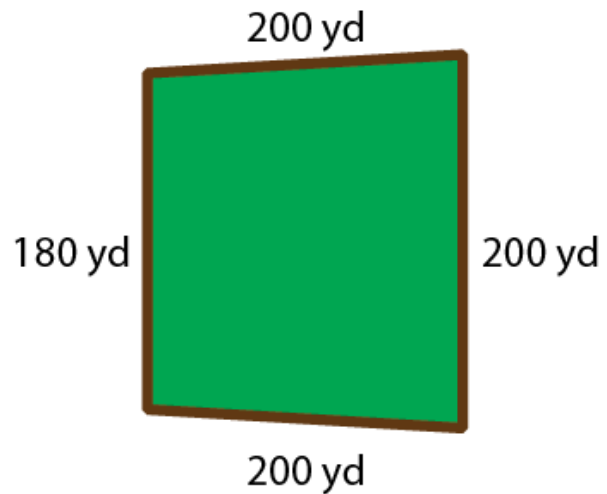https://bealearninghero.org/readiness-check

Name: _____

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REDWOOD PARK

200 yd

180 yd

200 yd

200 yd

Answer: [   ] yards farther