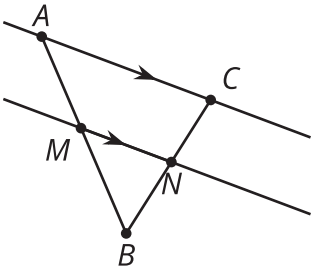
# Unit 3 Lesson 11: Splitting Triangle Sides with Dilation, Part 2

## 1 Notice and Wonder: Parallel Segments (Warm up)

### Student Task Statement

What do you notice? What do you wonder?

$\overleftrightarrow{AC} \parallel \overleftrightarrow{MN}$



# 2 Prove It: Parallel Segments

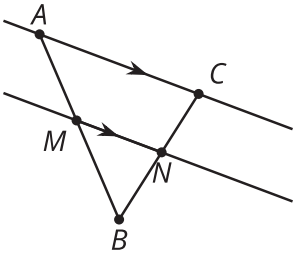
## Student Task Statement

Does a line parallel to one side of a triangle always create similar triangles?

1. Create several examples. Decide if the conjecture is true or false. If it's false, make a more specific true conjecture.

2. Find any additional information you can be sure is true. Label it on the diagram.

$\overleftrightarrow{AC} \parallel \overleftrightarrow{MN}$



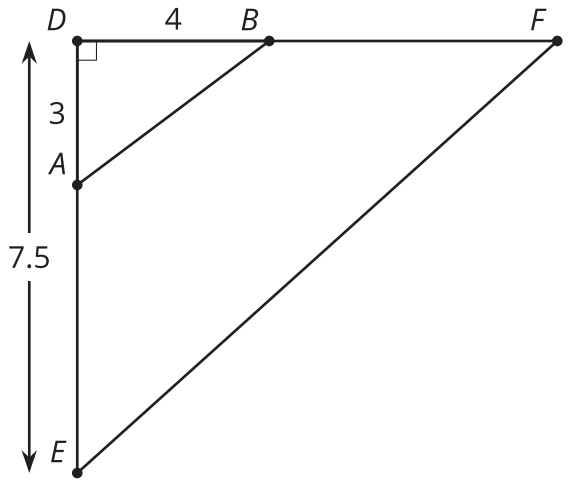

3. Write an argument that would convince a skeptic that your conjecture is true.

# 3 Preponderance of Proportional Relationships

## Student Task Statement

Find the length of each unlabelled side.

1. Segments $AB$ and $EF$ are parallel.
   $\overline{AB} \parallel \overline{EF}, \overline{AD} \perp \overline{DB}$



2. Segments $BD$ and $FG$ are parallel. Segment $EG$ is 12 units long. Segment $EB$ is 2.5 units long.
$\overline{BD} \parallel \overline{FG}$