

(DN) Do #1

Name \_\_\_\_\_ Per \_\_\_\_\_

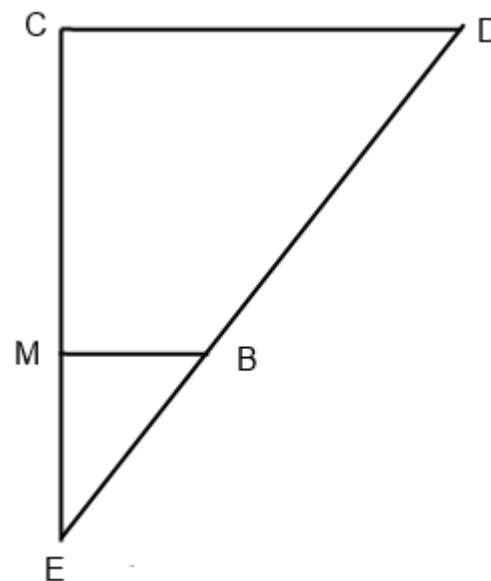
LO: I can describe how scale drawings and the side splitter theorem are related and use the side splitter theorem to solve problems

□ (1)  
ruler and  
setsquare

**Scale drawings to side splitter theorem**

(a) Is ECD is a scale drawing of EMB?

Use the angle and segment relationships as evidence.



(b) The center for the scale drawing dilation is point \_\_\_\_

(c) Since this is a scale drawing and it could be made with the parallel method, are there any parallel segments? If so, which ones?

(d) Is there a side splitter? If so, name it.

(e) Write all proportions that can be written based on the side splitter theorem (letters only, no numbers).

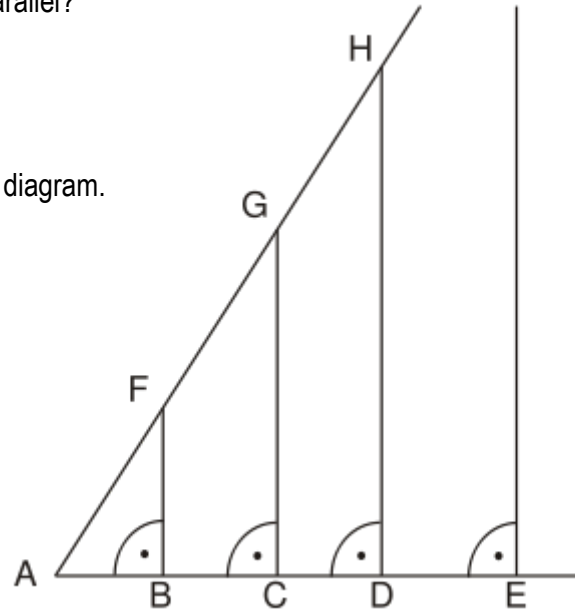
(f) Are there any proportions in part (e) that are identical to a proportion in part (a)? If so, write it/them down.

(g) Scale drawings through dilation involved \_\_\_\_\_ ratios and \_\_\_\_\_ segments. The side splitter theorem involves \_\_\_\_\_ ratios and \_\_\_\_\_ segments. Do scale drawings and the side splitter theorem have more things in common, or more things that are very different? \_\_\_\_\_

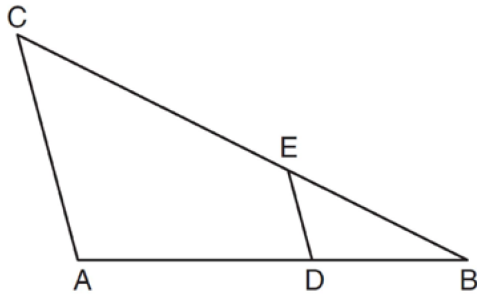
(2) **Side Splitter Proportions**

cont.  
ruler and  
setsquare

 (a) List any parallel segments. How do you know they are parallel?

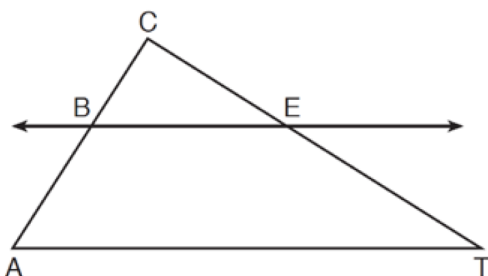
 (b) Write 4 different true proportions relating segments in the diagram.

 (3) **Side Splitter Practice**

(a) In the diagram below of  $\triangle ABC$ ,  $D$  is a point on  $\overline{AB}$ ,  $E$  is a point on  $\overline{BC}$ ,  $\overline{AC} \parallel \overline{DE}$ ,  $CE = 25$  inches,  $AD = 18$  inches, and  $DB = 12$  inches. Find, to the nearest tenth of an inch, the length of  $\overline{EB}$ .



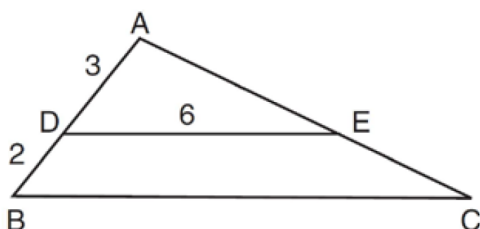
(3) Side Splitter Practice

highlighter  (b) In the diagram below of  $\triangle ACT$ ,  $\overleftrightarrow{BE} \parallel \overline{AT}$ .



If  $\overline{CB} = 3$ ,  $\overline{CA} = 10$ , and  $\overline{CE} = 6$ , what is the length of  $\overline{ET}$ ?

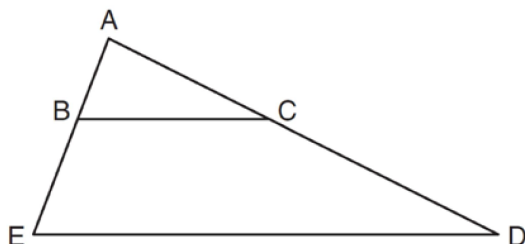
(c) In the diagram of  $\triangle ABC$  below,  $\overline{DE} \parallel \overline{BC}$ ,  $\overline{AD} = 3$ ,  $\overline{DB} = 2$ , and  $\overline{DE} = 6$ .



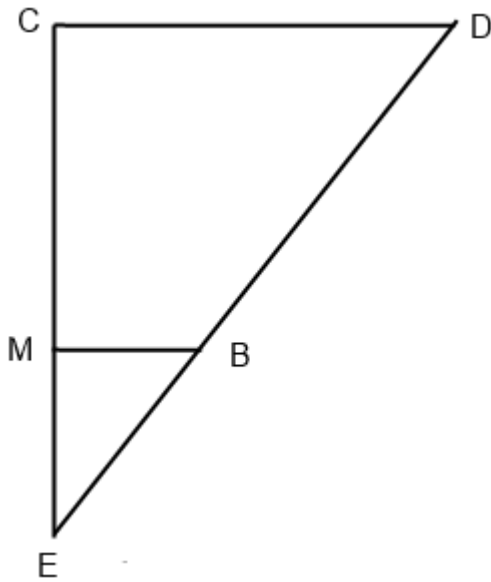
What is the length of  $\overline{BC}$ ?

(d)

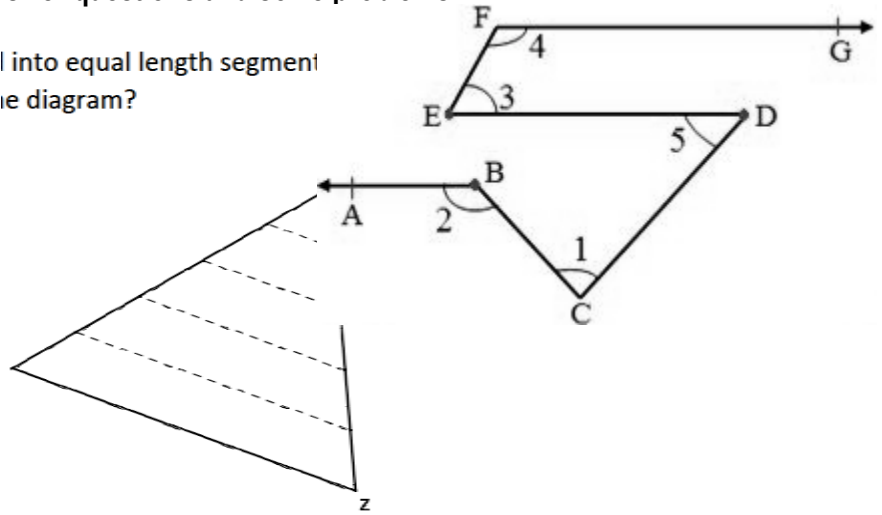
In the diagram below of  $\triangle ADE$ ,  $B$  is a point on  $\overline{AE}$  and  $C$  is a point on  $\overline{AD}$  such that  $\overline{BC} \parallel \overline{ED}$ ,  $\overline{AC} = x - 3$ ,  $\overline{BE} = 20$ ,  $\overline{AB} = 16$ , and  $\overline{AD} = 2x + 2$ . Find the length of  $\overline{AC}$ .



(3) Side Splitter Theorem: using it to answer questions and solve problems



into equal length segments in the diagram?



(4) Side Splitter Theorem: using it to answer questions and solve problems

ruler Use the diagram to answer each part below.

- a. Measure the segments in the figure below to verify that the proportion is true.

$$\frac{OA'}{OA} = \frac{OB'}{OB}$$

- b. Is the proportion  $\frac{OA}{OA'} = \frac{OB}{OB'}$  also true? Explain algebraically.

- c. Is the proportion  $\frac{AA'}{OA'} = \frac{BB'}{OB'}$  also true? Explain algebraically.

