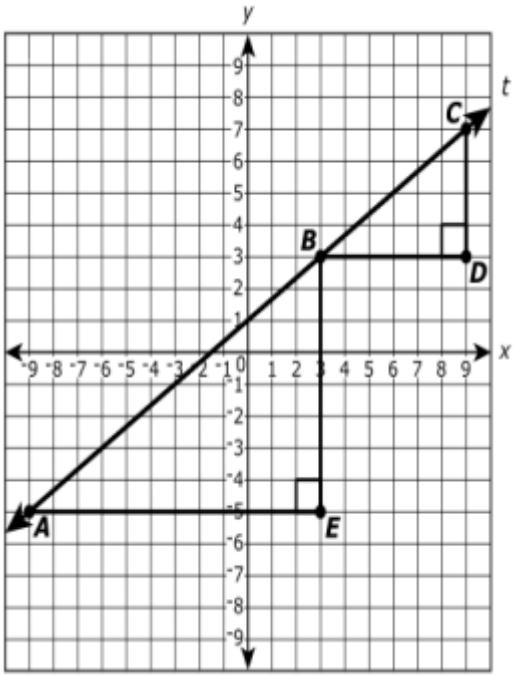
Timed Extended Constructed Response (ECR) Task—Grade 8 November

Name: _____ Date: _____

Similar triangles ABE and BCD are shown on the coordinate plane. Line t passes through points A, B, and C.



PART A

Select one of the following answers to correctly complete the sentence.

The slope of segment AB is (greater than, less than, equal to) the slope of segment BC.

PART B

Use the ratios of the side lengths of triangle ABE and triangle BCD to explain your answer to Part A.

Enter your answer and explanation in the space provided.

PART C

Write an equation for line t. Show or explain how you determined your equation.

Enter your answer and explanation in the space provided.

ANSWER KEY

Rubric Part A	
Score	**Description**
1	Student response includes the following element. ● Computation component = 1 point ○ The student provides a response that indicates the slope of AB is equal to the slope of BC.
0	Student response is incorrect or irrelevant.

Rubric Part B	
Score	**Description**
1	Student response includes each of the following 2 elements. ● Reasoning component = 1 point ○ The student correctly reasons that BE/EA = CD/DB, so both AB and BC have the same slope. Sample Student Response: "The ratio BE/EA = 8/12 = 2/3. The ratio CD/DB = 4/6 = 2/3. Since the ratio of the sides of each triangle is 2/3, the ratios are equal, so BE/EA = CD/DB. This means that both segments have the same slope."
0	Student response is incorrect or irrelevant.

Rubric Part C	
Score	**Description**
2	Student response includes each of the following 2 elements. ● Computation component = 1 point ○ The student determines a correct equation for line t of y = 2/3x + 1 ● Reasoning component = 1 point ○ The student shows or explains that line t has a slope of 2/3 and a y-intercept of 1. Sample Student Response: "To find the slope of line t, I can take any two points on the line and find the ratio of the rise to the run. Using points A and B, I found the slope to be 3-(-5)/3-(-9) = 8/12 = 2/3. Then I identified the y-intercept of line t by looking at its graph. The line crosses the y-axis at y = 1, so the y-intercept is 1. Therefore, the equation of line t is y = 2/3x + 1" Notes: ● The student may receive a combined total of 2 points if the reasoning processes are correct but the student makes one or more computational errors resulting in incorrect answers. ● The student may receive a total of 2 points if he or she computes the correct answers but shows no explanation or insufficient explanation to indicate a correct reasoning. ● The students cannot receive more than 1 point for reasoning if the explanations, while sufficient to indicate that the student had correct reasoning, and contain nonsense statements.
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

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