NJSLA Geometry

Lesson 6: Practice Drag and Drop Problems

Rationale

- Students need to explore using different types of items that will be found on the NJSLA assessment. This will foster confidence when completing assessment items.

Goals

- To provide the opportunity to review the Drag and Drop problems.
- To complete a pencil/paper version of technology-enhanced items
- To consider response choices and their given categories, specific to Geometry content.

Objectives

- Students will work with problems using the drop down menu strategy consequently being exposed to items that reflect the content and format of NJSLA items.
- Students will determine common mistakes for various Geometry problems.

Materials

- Practice Problem Worksheet
- Check Your Understanding Worksheet

Procedures

- Say, "Today we are going to continue our preparation for NJSLA by focusing on one type of problem you will see on the assessment, the drag and drop. These problems are computer scored. "
- Form student-selected pairs or small groups. Give each pair of students the Practice a Problem Worksheet. Have students cut out the possible answers and mimic the NJSLA problem by dragging the answer and dropping it into the appropriate place.
- Then have students come up with three observations they notice about the problem. If students are having difficulty creating observations, suggest they look at the number of possible answers in each problem, the types of answers, or if there is exactly one correct answer or more than one correct answer.
- Review the observations with the class as a whole. Review the correct answers of *90; 80; 50; 40; 50*. Point out that on a paper and pencil version of the problem they will write their answer in the appropriate box, but on the actual NJSLA assessment they will slide the answer into its appropriate place.

- Next, give each pair of students the Check Your Understanding Worksheet. Explain that students will be using the given problems and required to mimic the drag and drop strategy.
- Review the completed problems with the whole class. Have students notice that some problems use all of the possible items to drag and drop while some do not. Other NJSLA items may allow students to drag and drop multiple times, such as the problem with classifying the parts of the function as increasing or decreasing.

Teacher & Teachers' Aide Observations During the Group Work

- Circulate the classroom and monitor students while they are completing each part of this activity. Try to observe the following and note the information:

  Which students are using their time wisely?

  Are students creating viable arguments for their choices?

  Which problem was the most challenging? The least challenging?

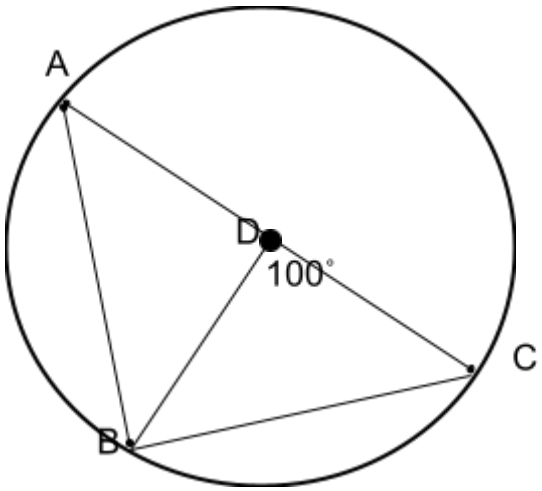
Check for Understanding

- Have students reflect upon this experience by generating a class discussion of comments regarding this type of problems including possible strategies they can use to solve them.

Follow Up

- You may wish to save students work and use the problems as quick Do Now by asking groups to solve the problems.

The figure shows $\angle ABC$ inscribed in circle D with $m\angle BDC = 100^\circ$. Drag and drop each angle measurements to the appropriate angle.



$m\angle ABC$	
$m\angle ADB$	
$m\angle BAC$	
$m\angle BCD$	
$m\angle DBC$	

40°	40°	45°	45°	50°
50°	80°	90°	90°	180°

Name_____

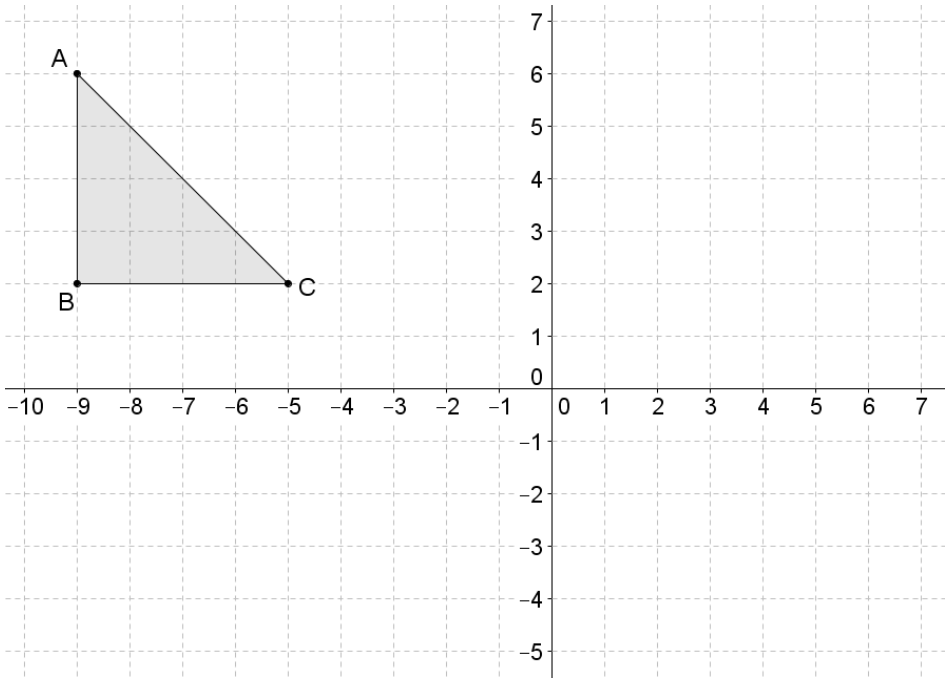
NJSLA Geometry

Lesson 6: Drag and Drop Strategy
Check Your Understanding Worksheet

Directions: Below you will find one type of item found on the NJSLA test. Determine the correct answer(s) and then simulate the drag and drop process by writing the correct answers in the answer box.

Problem 1

$\triangle ABC$ is translated 5 units to the right and then reflected over the x-axis. Drag and drop the corresponding coordinates to each point.

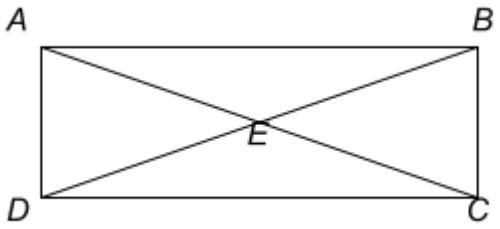


Original	Translated	Reflected
A:		
B:		
C:		

(–9, 6)	(0, -2)	(–9, 2)
(–4, –6)	(–4, 6)	(–4, –2)
(–5, 2)	(–5, –2)	(–5, –4)
(-4, 6)	(0, 2)	(-4, 2)

Problem 2

Arrange the statements and reasons for the proof.
Some may be used more than once or not at all.



Given: rectangle *ABCD*

Prove: $\overline{AC}$ bisects $\overline{BD}$

Rectangle *ABCD*

Given

EMBED Equation.DSMT4

EMBED Equation.DSMT4

EDC ≅ *BEA*

DEC ≅ BEA

EMBED Equation.DSMT4

EMBED Equation.DSMT4

EMBED Equation.DSMT4 bisects EMBED Equation.DSMT4

BDC ≅ *ABD*

Vertical angles are ≅

AAS Theorem

ASA Theorem

Alternate interior angles formed by parallel lines are congruent

Corresponding parts of congruent triangles are congruent.

Definition of a bisector

Definition of a rectangle

Statements	Reasons

Answer Key

Problem 1

Original Point	Translated Point
(–9, 6)	(–4, –6)
(–9, 2)	(–4, –2)
(–5, 2)	(–1, –2)

Problem 2

Statements	Reasons
Rectangle *ABCD*	Given
EMBED Equation .DSMT4	Definition of a rectangle
DEC ≅ BEA	Vertical angles are ≅
EMBED Equation .DSMT4	Definition of a rectangle
BDC ≅ ABD	Alternate interior angles formed by parallel lines are congruent
EDC ≅ BEA	AAS Theorem
EMBED Equation.DSMT4	Corresponding parts of congruent triangles are congruent.
EMBED Equation.DSMT4 bisects EMBED Equation.DSMT4	Definition of a bisector