

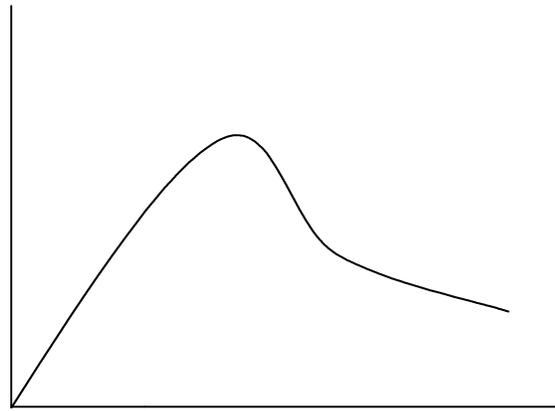
HOT SEAT ACTIVITY

- Have student teams sit in rows one behind the other.
- On the last desk in the row (the hot seat) place index cards which contain the following words (the rubric criteria): analysis, representation, application, explanation, and justification.
- Put a question on the overhead or board. (Examples are provided.)
- Read or show a portion of the students response. (Partial student responses are separated by bullets on the examples.)
- The last student in the row must pass up the index card with the name of the correct criterion addressed in the partial student response written on it.
- Without talking, each team member must decide if the card is correct. If it is correct, the team member continues to pass the card forward. If it is incorrect, the team member passes it back to the hot seat for another card with a different criterion written on it.
- The team that gets the card with the correct criterion on it to the front first receives a point.
- Everyone moves back a seat. The “hot seat” person moves to the front of the row.
- Repeat the activity using another response or question.

HOT SEAT PROBLEM 1

The graph below shows the fuel economy of an average car as a function of speed. Make a table that gives the fuel economy at different speeds. At which speed is the fuel economy the greatest? Use mathematics to justify your answer.

SPEED AND FUEL ECONOMY



Speed (mph)

- The fuel economy is the greatest at 40mph.

(Application)

- | Speed | Fuel Economy |
|-------|--------------|
| 10 | 10 |
| 20 | 25 |
| 40 | 35 |
| 50 | 30 |

(Representation)

- The fuel economy is greatest at 40 mph because that is where the maximum point of the graph is located.

(Justification)

HOT SEAT PROBLEM 2

Video club A charges an annual fee of \$10 plus \$2 per video. Video club B simply charges \$3 per video. Use a graph, table or equations to represent each club's cost. When is the cost for renting the videos the same for both clubs? Use mathematics to justify your answer.

- I need to find out how much each video club charges for 2, 4, 6, ... videos to see if I find a pattern.

(Analysis)

- $Y =$ total cost $X =$ number of videos

Club A	$Y = 10 + 2X$
Club B	$Y = 3X$

(Representation)

- Since the 2 lines intersect at (10,30), I know that either club would have the same cost of \$30 when you rent 10 videos.

(Justification)

HOT SEAT PROBLEM 3

Pattern Block Fence

To build the first pattern block fence, 2 rhombuses and 2 triangles are needed. To build the second fence, 3 rhombuses and 4 triangles are needed.

Use pattern blocks to build fences until 8 rhombuses are used in a fence. Complete the table below to show the number of rhombuses, triangles and total blocks used for each new fence number.

What is the total number of blocks for fence 20? Explain how you determined the total number of blocks for fence 20. Use words, symbols, or both in your explanation.

- I found a pattern. For each new fence I needed to add one rhombus and two triangles.

(Explanation)

- I need to draw more figures to extend the pattern.

(Analysis)

- For fence 20, there are 21 rhombuses, 22 triangles, and 43 total blocks.

(Application - incorrect)