Math Cut Ups

Geometric Thinking Cards

Teacher directions:

- Print the card sets for each group of students using colored cardstock.
- Laminate all materials before using for longer durability.
- Cut cards apart and place sets in baggies or envelopes or on a notebook ring.
- Use **Geometric Thinking Cards** to prompt student thinking and help students process the information, patterns and mathematical relationships they will be working with during an activity or exercise.
- Suggested uses:
  - Select a few cards (by letters) appropriate to your learning activity and ask students to be thinking about these as they complete their work.
  - Discuss cards as a whole group or have groups or individuals discuss one or two cards.
  - Incorporate discussion questions into written conclusion paragraphs.
  - Differentiate for the specific abilities of a student or group (Special Education, ELL, GT) by removing/adding cards.
- Generate additional cards for the set.
- Copy the template below with all the questions and have students glue it into their math notebooks for continued use during the year.

Geometric Thinking Questions

A. What are the inverse, converse and/or contrapositive of your statement? Are they valid?
B. How can algebra help solve the problem? What algebraic rule could describe the patterns?
C. What conjecture can be made based on your analysis? What did you base it on?
D. How would the coordinate plane help illustrate your problem or solution?
E. What type(s) of shape(s) are described in the situation? What are the properties?
F. What geometric concept is the problem describing? How do you know?
G. What property, law, theorem, or postulate proves your thinking?
H. What type of units will describe the outcome to the situation? Are conversions needed to solve?
I. Is a formula needed to solve this problem? Which one? How do you know?
J. Is this answer always true? In what circumstances would it not be true?
K. What attributes of the figure(s) are important to know in solving the problem? Why?
L. What information is given in the situation? What information are you solving for? How do you know?
M. Would a drawing, diagram or picture help make the math in the situation clearer? How so?
N. What are the properties of the parts? How do those properties relate to the whole?
O. Would deductive or inductive reasoning work best in this situation? Why?
P. How would you explain your process to someone just learning this math topic?
Q. How is this concept applied in real world situations? Give some examples.
R. What 3 points about what you have learned would a new student need to know to be successful?
S. How are the figures alike? Different? How could you transform one figure to make it like the other?
T. What other figures or examples would satisfy the criteria? Which would not?
U. How was the figure transformed? How did the change affect the properties? Why?

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