

Creating Good Questions

(from More Big Questions: Great Ways to Differentiate Secondary Mathematics Instruction by Marian Small and Amy Lin)

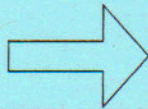
Open Questions

Create questions that are in the appropriate zone of proximal development for the entire class so that each student becomes part of the larger learning conversation, an important and valued member of the learning community. A question is open when it is framed in such a way that a variety of responses or approaches is possible.

Strategies:

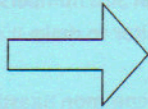
Turning around a question

What is 5% of 200?



20 is a percent of a number.
What percent of what number is it?

What is the hypotenuse of a right triangle if the legs are 3 units and 4 units long?



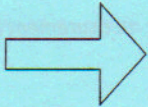
One side of a right triangle is 5 units long. What could the other side lengths be?

Asking for similarities and differences

Choose two items, two numbers, two shapes, two probabilities, etc. and ask how they are alike or how they are different.

Replacing a number, shape, measurement unit, and so forth with a blank

What is the surface area of a cone with a radius of 4" and a height of 15"?



Choose numbers for the radius and height of a cone and determine its surface area.

Asking for a number sentence

Create a sentence that includes the words "linear" and "increasing" as well as the numbers 4 and 9.

Giving an answer and asking for a question.

Write an equation which has $x = 8$ for the answer