Creating Open Questions

1. Turning Around a Question	3. Replacing a Number, etc. with a Blank
2. Asking for Similarities and Differences	4. Asking for a Number Sentence

Turning Around a Question	Asking for Similarities and Differences
Example: ◦ What is the hypotenuse of a right triangle if the legs are 3 units and 4 units long? **Becomes:** ◦ One side of a right triangle is 5 units long. What could the other lengths be?	**Example:** Which of these calculations do you see as most alike? Why? $3\pi - 4\pi = -\pi$ $8\sqrt{2} + 3\sqrt{2} = 11\sqrt{2}$ $3\sqrt{8} + 4\sqrt{2} = 10\sqrt{2}$

Replacing a Number, etc. with a Blank	Asking for a Sentence
Example: $\frac{4m}{5} - \frac{1}{2} = -\frac{25}{2}$, solve for m **Becomes:** ◦ The solution to an equation is m = -15 and involves a fraction. What might that equation be? ___m + ___ = ___	**Example:** Create a sentence that includes the words "linear" and "increasing" and the numbers 4 and 9 Possible answers: ◦*An increasing linear pattern could include the numbers 4 and 9.* ◦*In a linear pattern starting at 4 and increasing by 9, the tenth number will be 85.* ◦*A linear pattern that is increasing by 9 grows faster than one that is increasing by 4.*

Based on: <u>More Good Questions: Great Ways to Differentiate Secondary Mathematics Instruction</u>
By Marian Small and Amy Lin