

QUESTIONS TO ASK THAT MOVE STUDENTS TO BECOME MATHEMATICALLY PROFICIENT

(from: <http://elementarymath.cmswiki.wikispaces.net/Standards+for+Mathematical+Practice>)

Practice	How did the student demonstrate this practice?
<p>1 Make sense of problems and persevere in solving them.</p>	<ul style="list-style-type: none"> • How would you describe the problem in your own words? • What do you know that is not stated in the problem? • Could you try this with simpler numbers? Fewer numbers? • Would it help to create a diagram? Make a table? Draw a picture?
<p>2 Reason abstractly and quantitatively.</p>	<ul style="list-style-type: none"> • What does it mean when...
<p>3 Construct viable arguments and critique the reasoning of others.</p>	<ul style="list-style-type: none"> • What do you think about what _____ said? • Do you agree? Why/why not? • Can you explain what _____ is saying? • Can you explain why his/her strategy works? • How is your strategy similar to _____'s? • Can you convince the rest of us that your answer makes sense?
<p>4 Model with mathematics.</p>	<ul style="list-style-type: none"> • What number sentence represents your drawing/picture/representation? • How could we use symbols to represent what's happening?
<p>5 Use appropriate tools strategically.</p>	<ul style="list-style-type: none"> • How did using that tool help you solve the problem? • If we didn't have access to that tool, what other one would you have chosen?
<p>6 Attend to precision.</p>	<ul style="list-style-type: none"> • Can you tell me why that is true? • How did you reach your conclusion? • How does your answer connect to the question? Does it make sense? • Can you make a model to show that? • Can you convince the rest of us that your answer makes sense? • What new words did you use today? How did you use them?
<p>7 Look for and make use of structure.</p>	<ul style="list-style-type: none"> • How do you know your rule/equation will always work?
<p>8 Look for and express regularity in repeated reasoning.</p>	<ul style="list-style-type: none"> • Is there a shortcut / algorithm you could use?