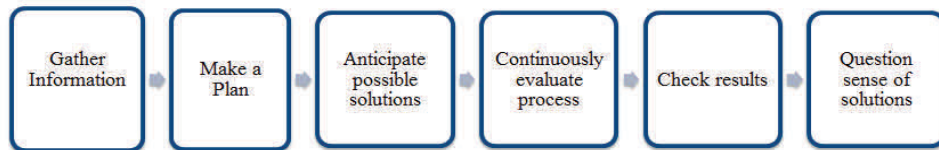
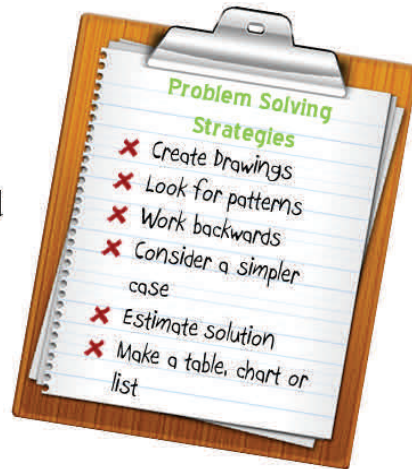


Mathematical Practice Standard 1

Make sense of problems and persevere in solving them.



Mathematical Practice Standard 2

Reason abstractly and quantitatively.

Decontextualize

Represent a situation symbolically and manipulate the symbols

$$99 \div 44 = 2.25$$

Mathematical Problem

Sample Problem
99 students need to go on a field trip. The busses can carry 44 students each. How many busses do they need?

Will need 3 busses.

Contextualize

Make meaning of the symbols in the problem

$$\begin{array}{l} 2 > -3 \\ 0.999... = 1 \\ \pi \approx 3.14 \\ \sqrt{2} \\ 5(2+2) \\ 101_2 = 5_{10} \end{array}$$

Mathematical Practice Standard 3

Construct viable arguments and critique the reasoning of others.

Use assumptions, definitions and previous results

Create an argument

Critique an argument

Distinguish correct logic

Explain flaws

Ask clarifying questions

- ☐ Make a conjecture
- ☐ Build a logical progression of statements to explore conjecture
- ☐ Analyze the situations by breaking them into cases
- ☐ Recognize and use counter examples

Support an argument

Communicate conclusions

Justify conclusions

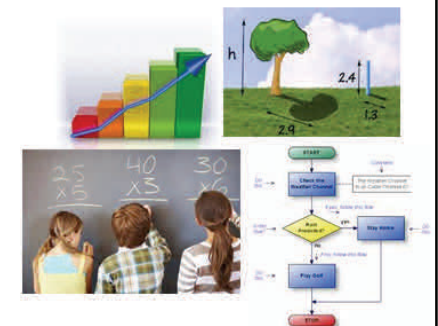
Respond to arguments

Mathematical Practice Standard 4

Model with mathematics.

Everyday situations

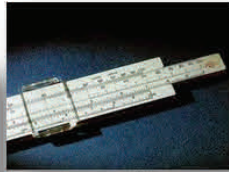
...reasoned using mathematical methods



Mathematical Practice Standard 5

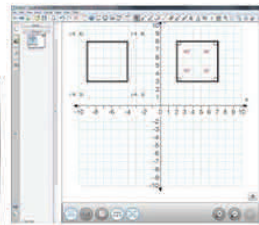
Use appropriate tools strategically.

Use available tools.



Strengths?
Weaknesses?

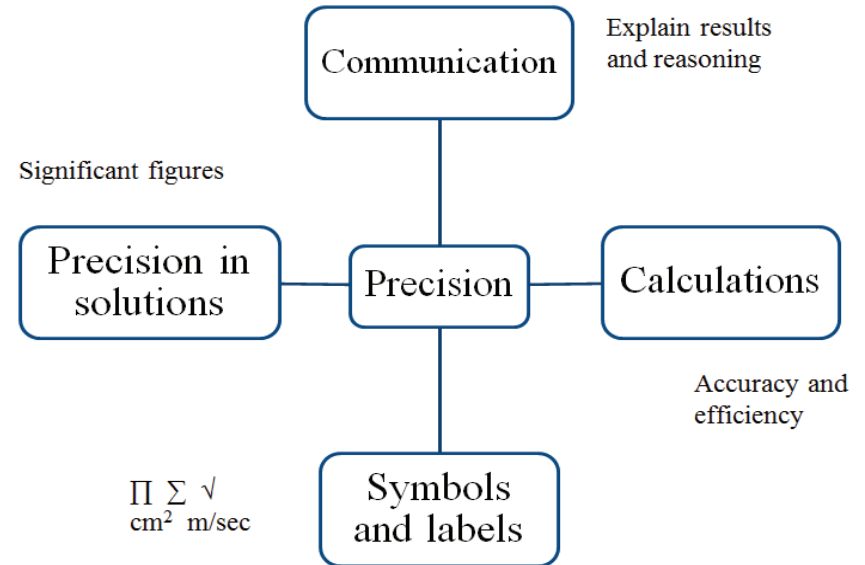
Estimate



Use technological tools.

Mathematical Practice Standard 6

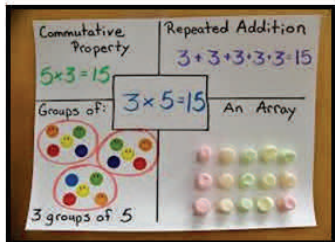
Attend to precision.



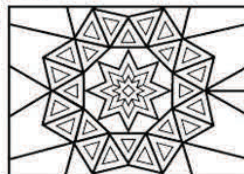
Mathematical Practice Standard 7

Look for and make use of structure.

Patterns



See complicated things as a single object or as being composed of several objects

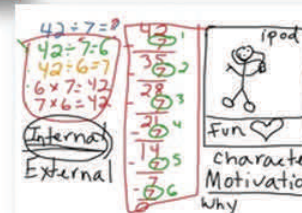


Shift Perspective



Mathematical Practice Standard 8

Look for and express regularity in repeated reasoning.



- See repeated calculations and look for generalizations
- Recognize reasonable solutions
- See the process – attend to details
- Understand the broader application of patterns