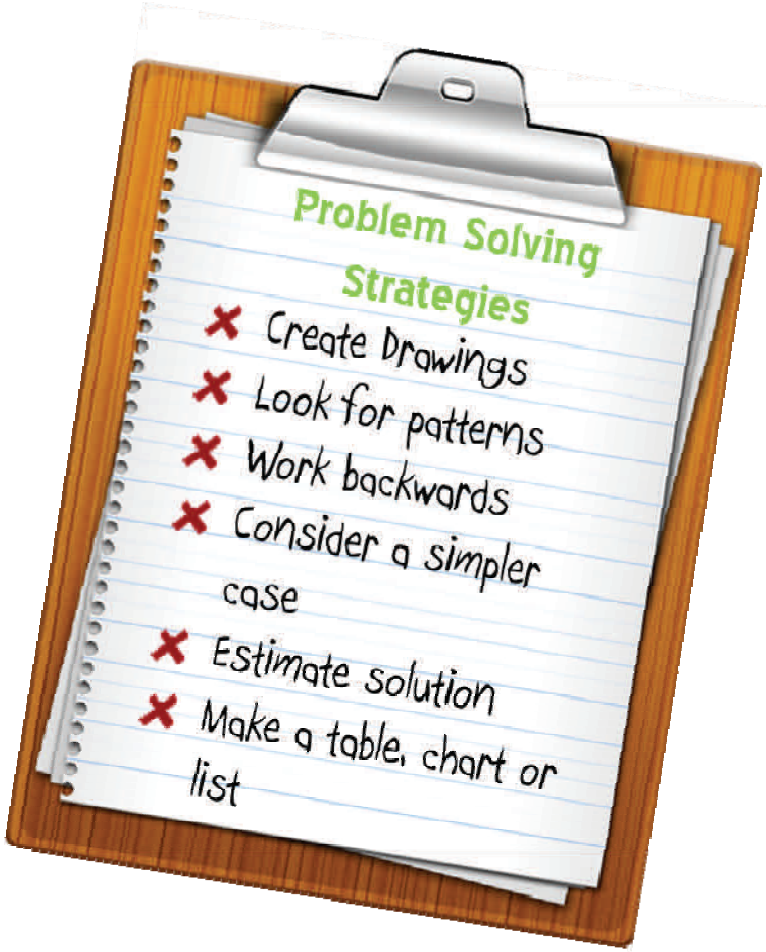
Mathematical Practice

Standard 1

Make sense of problems and persevere in solving them.



Gather Information → Make a Plan → Anticipate possible solutions → Continuously evaluate process → Check results → Question sense of solutions

Mathematical Practice

Standard 2

Reason abstractly and quantitatively.

Decontextualize

Represent a situation symbolically and manipulate the symbols

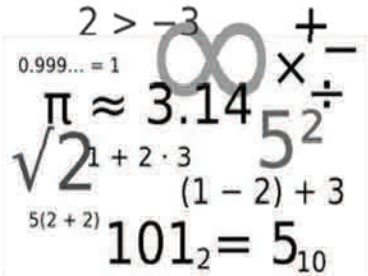
99 ÷ 44 = 2.25

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

Mathematical Practice

Standard 3

Construct viable arguments and critique the reasoning of others.

Use assumptions, definitions and previous results

Create an argument

- ❑ 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

Critique an argument

- Distinguish correct logic
- Explain flaws
- Ask clarifying questions

Support an argument

- Communicate conclusions
- Justify conclusions
- Respond to arguments

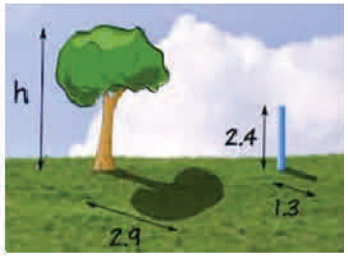
Mathematical Practice

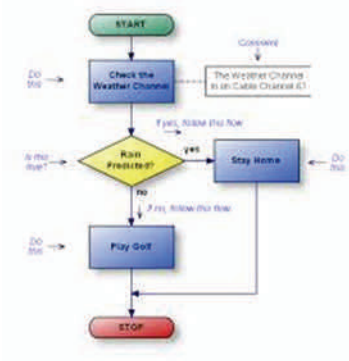
Standard 4

Model with Mathematics.

Everyday situations

...reasoned using mathematical methods

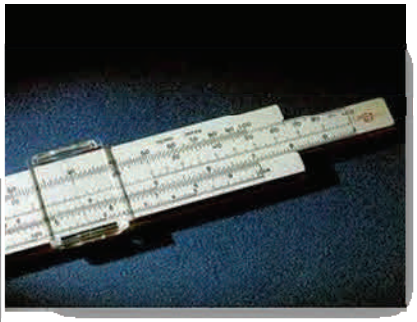




Mathematical Practice

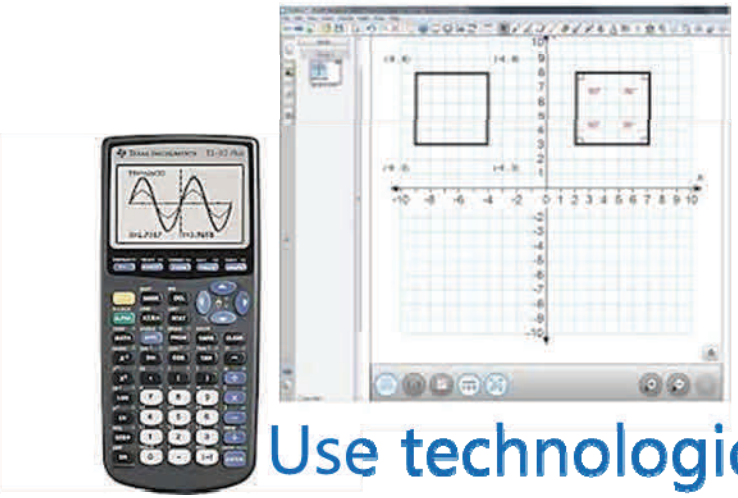
Use appropriate tools strategically.

Use available tools.



Strengths?
Weaknesses?

Estimate

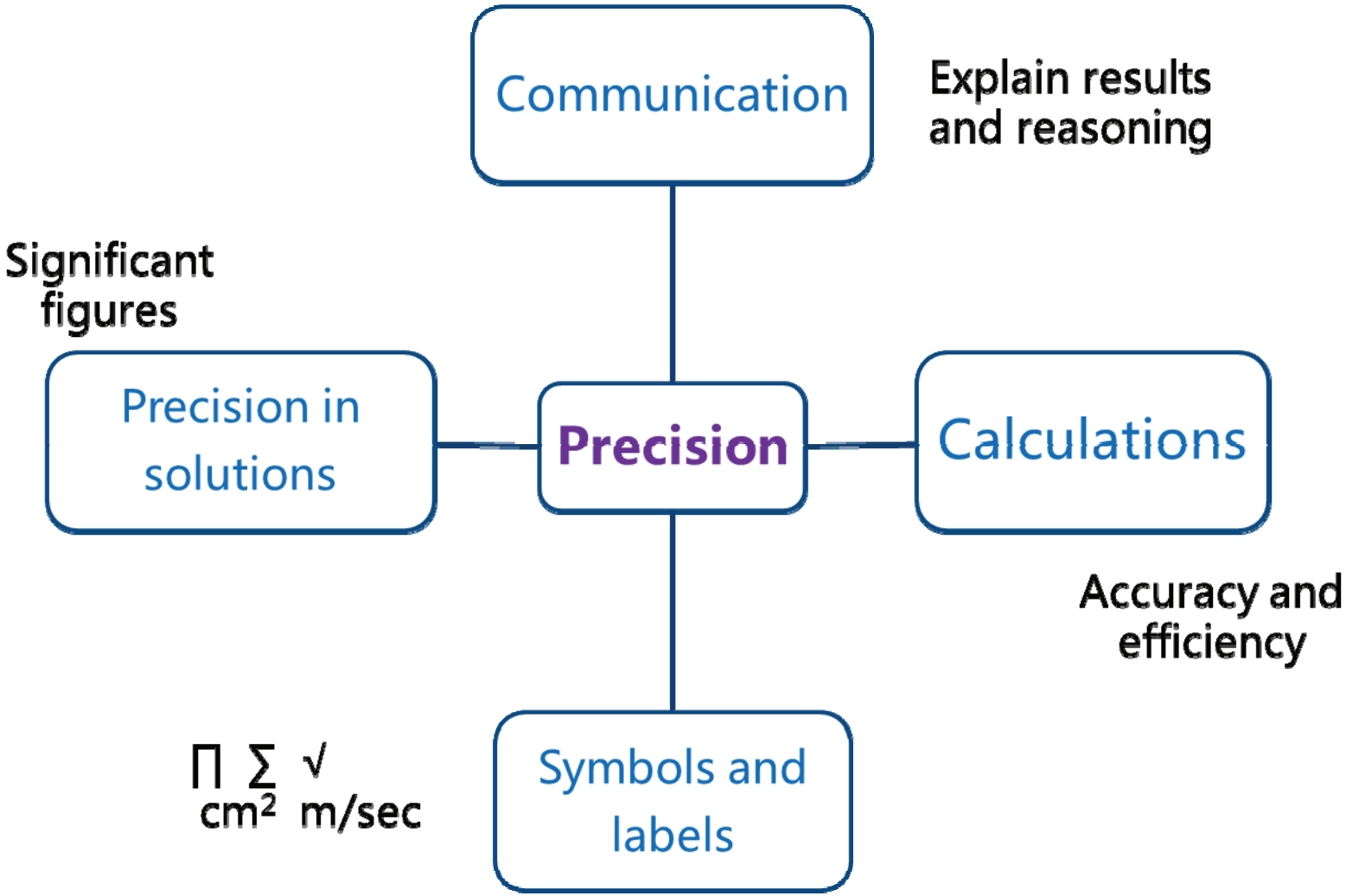


Use technological tools.

Mathematical Practice

Standard 6

Attend to precision.

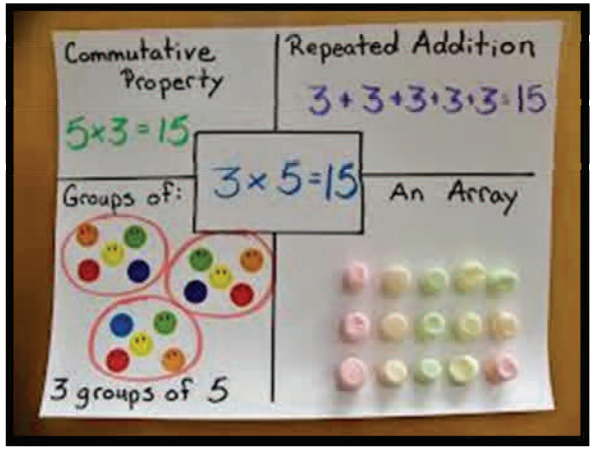


Mathematical Practice

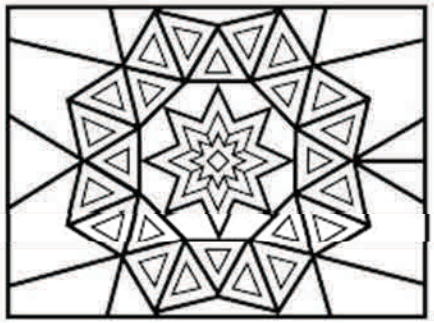
Standard 7

Look for and make use of structure.

Patterns



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

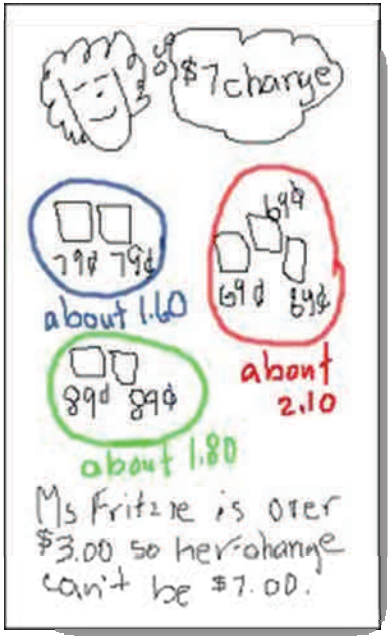


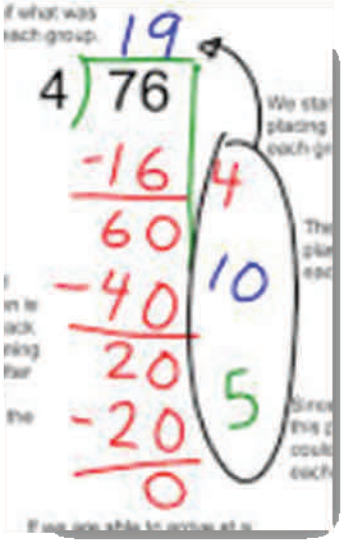
Shift Perspective

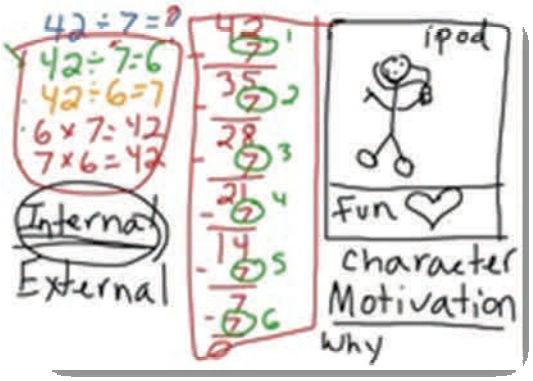
Mathematical Practice

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