Illustration of the Mathematical Practices

The following illustrations help clarify the meaning of the 8 mathematical practices. They were taken from:


1. Make sense of problems and persevere in solving them.
   - Illustration: A person lifting a weight with the text "Keep on going!"

2. Reason abstractly and quantitatively.
   - Illustration: A person solving a mathematical equation, "\( \frac{1}{2} \times 4 \)
     - Story: DeJuan exercises 1/2 hour a day for 4 days. How many total hours does he exercise? Think what makes sense.

3. Construct viable arguments and critique the reasoning of others.
   - Illustration: Two people discussing a fraction, "\( \frac{2}{4} = \frac{1}{2} \), I agree.
     - Illustration: Three people with different colored pies, "Talk and explain."

4. Model with mathematics.
   - Illustration: A timeline showing fractions, "\( \frac{1}{2} \times 4 = 2 \) or \( 4 \times \frac{1}{2} = 2 \)
     - Illustration: Show your thinking."
5. Use appropriate tools strategically.
   \[
   3 \times 2 = 6
   \]

   Use the right tools.

5. Use appropriate tools strategically.
   \[
   3 \times 2 = 6
   \]

   Use the right tools.

6. Attend to precision.
   \[
   120 \text{ minutes} = 2 \text{ hours}
   \]

   Check your work.

7. Look for and make use of structure.
   \[
   8 + 4 = 12
   \]

   See the pattern or connection.

8. Look for and express regularity in repeated reasoning.
   See the pattern or connection.