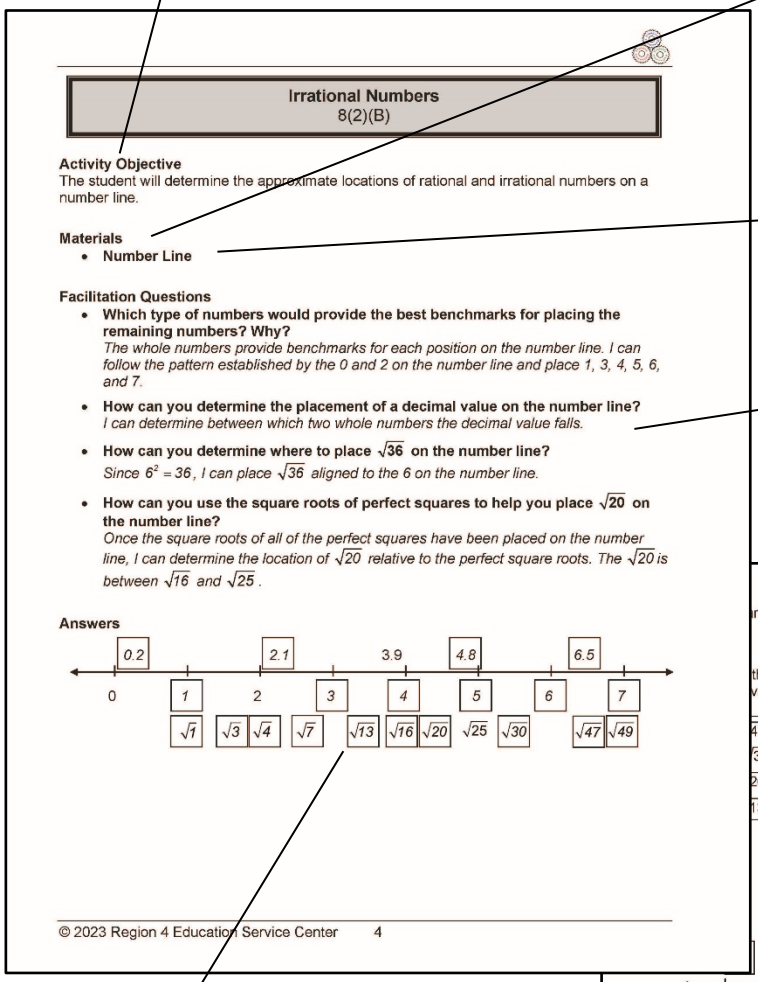
What is found in an Engaging Mathematics TEKS-based activity?

Each activity addresses a specific student expectation that is reflected in the content objective.

Common classroom materials are used for ease of preparation. Materials are listed 1-per-student unless otherwise noted. Page titles for student handouts are represented with bold font.

Students should have continuous access to graphing technology and STAAR® Reference Materials that will be made available for the assessment.

Facilitation questions are provided for teacher use when supporting student thinking and discourse.



Irrational Numbers
8(2)(B)

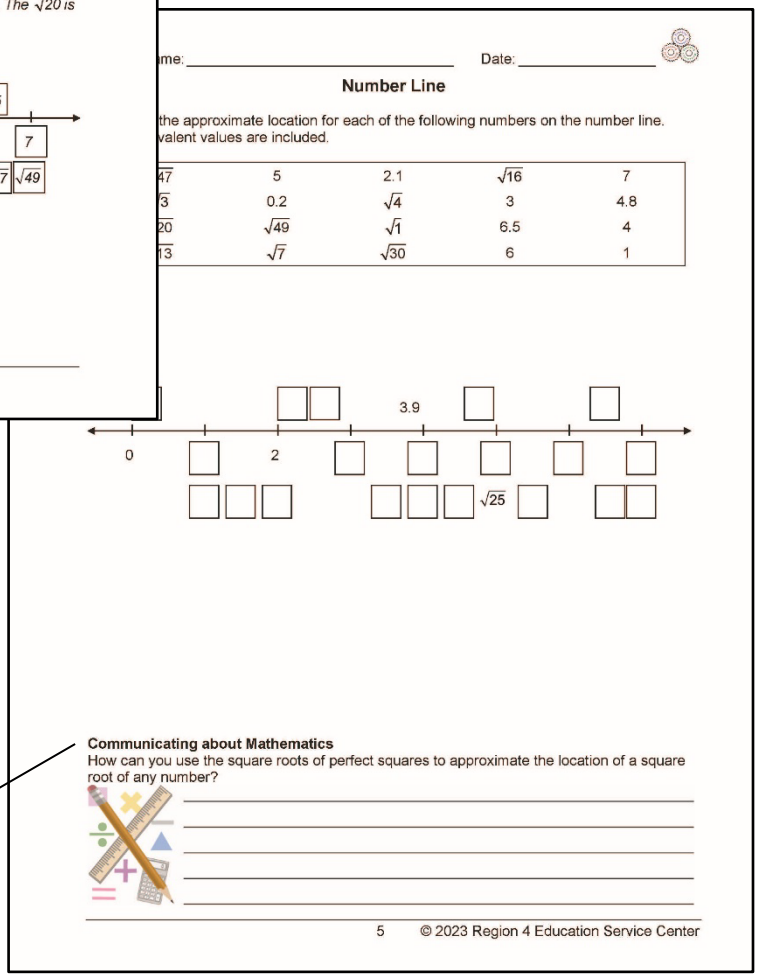
Activity Objective
The student will determine the approximate locations of rational and irrational numbers on a number line.

Materials
- Number Line

Facilitation Questions
- **Which type of numbers would provide the best benchmarks for placing the remaining numbers? Why?**
  The whole numbers provide benchmarks for each position on the number line. I can follow the pattern established by the 0 and 2 on the number line and place 1, 3, 4, 5, 6, and 7.
- **How can you determine the placement of a decimal value on the number line?**
  I can determine between which two whole numbers the decimal value falls.
- **How can you determine where to place $\sqrt{36}$ on the number line?**
  Since $6^2 = 36$, I can place $\sqrt{36}$ aligned to the 6 on the number line.
- **How can you use the square roots of perfect squares to help you place $\sqrt{20}$ on the number line?**
  Once the square roots of all of the perfect squares have been placed on the number line, I can determine the location of $\sqrt{20}$ relative to the perfect square roots. The $\sqrt{20}$ is between $\sqrt{16}$ and $\sqrt{25}$.

Answers

An answer key is included for each activity.



me: _____ Date: _____

Number Line

the approximate location for each of the following numbers on the number line.
valent values are included.

47	5	2.1	√16	7
3	0.2	√4	3	4.8
20	√49	√1	6.5	4
13	√7	√30	6	1

Communicating about Mathematics
How can you use the square roots of perfect squares to approximate the location of a square root of any number?

5

Each activity includes an opportunity for students to articulate and summarize aspects of their learning.