1. The number $-4.2$ is rational. Which shows that number expressed as the ratio of two integers?
   A. $-\frac{4}{2}$
   B. $-\frac{12}{5}$
   C. $-\frac{21}{5}$
   D. $-\frac{40}{2}$

2. Which symbol makes this sentence true?
   $\pi \bigcirc \sqrt{7}$
   A. $>$
   B. $<$
   C. $=$
   D. $+$

3. Oceans cover approximately 70.8% of Earth's surface. Which shows 70.8% expressed as a decimal?
   A. 0.0708
   B. 0.708
   C. 0.78
   D. 7.08

4. Consider the three irrational numbers below.
   $3.24037..., \pi, \sqrt{12}$
   Which lists these numbers in order from greatest to least?
   A. $\pi, \sqrt{12}, 3.24037...$
   B. $\pi, 3.24037..., \sqrt{12}$
   C. $3.24037..., \pi, \sqrt{12}$
   D. $\sqrt{12}, 3.24037..., \pi$

5. Which of the following is a rational number that can be written as a decimal in which one or more nonzero digits repeat?
   A. $\sqrt{16}$
   B. $\sqrt{5}$
   C. $\frac{5}{8}$
   D. $\frac{5}{9}$

6. Which best represents the value of $2\sqrt{45}$?
   A. 13.6
   B. 13.4
   C. 9.0
   D. 8.7
Coached Example

The area of a square is 67 square meters. Find the exact length, in meters, of one side of the square. Then graph that value on a number line.

The area, \( A \), of a square is found using the formula \( A = s^2 \), where \( s \) shows the length of one side.

So, the length of one side, \( s \), can be found by taking the square root of _________.

The exact length of each side of the square is \( \sqrt{______} \) meters.

To graph that number on a number line, first estimate its value as a decimal.

67 lies between the perfect squares 64 and _________.

\( \sqrt{64} = _________. \), and the square root of the other perfect square is _________.

So, \( \sqrt{67} \) lies between the whole numbers _____ and _____, but is closer to _____.

Use guess and check to estimate its value to the nearest tenth.

Try 8.1:

\[ 8.1^2 = 8.1 \cdot 8.1 = _________ \quad \rightarrow \quad \text{close, but _______ than 67.} \]

Try 8.2:

\[ 8.2^2 = 8.2 \cdot 8.2 = _________ \quad \rightarrow \quad \text{close, and _______ than 67.} \]

Which is closer to 67: \( 8.1^2 \) or \( 8.2^2 \)? _________

So, \( \sqrt{67} \) is between 8.1 and 8.2, but is closer to _________.

Graph \( \sqrt{67} \) on the number line below.

\[ \begin{array}{cccccccc}
8 & 8.1 & 8.2 & 8.3 & 8.4 & 8.5 & 8.6 & 8.7 & 8.8 & 8.9 & 9
\end{array} \]

The exact length of one side of the square is _____ meters.

The number line above shows the approximate decimal value.
Domain 1: Cumulative Assessment for Lessons 1–4

1. The number \(-4.2\) is rational. Which shows that number expressed as the ratio of two integers?
   A. \(-\frac{4}{2}\)
   B. \(-\frac{12}{5}\)
   C. \(-\frac{21}{5}\)
   D. \(-\frac{40}{2}\)

2. Which symbol makes this sentence true?
   \[ \pi \bigcirc \sqrt{7} \]
   A. >
   B. <
   C. =
   D. +

3. Oceans cover approximately 70.8% of Earth's surface. Which shows 70.8% expressed as a decimal?
   A. 0.0708
   B. 0.708
   C. 0.78
   D. 7.08

4. Consider the three irrational numbers below.
   3.24037..., \(\pi\), \(\sqrt{12}\)
   Which lists these numbers in order from greatest to least?
   A. \(\pi\), \(\sqrt{12}\), 3.24037...
   B. \(\pi\), 3.24037..., \(\sqrt{12}\)
   C. 3.24037..., \(\pi\), \(\sqrt{12}\)
   D. \(\sqrt{12}\), 3.24037..., \(\pi\)

5. Which of the following is a rational number that can be written as a decimal in which one or more nonzero digits repeat?
   A. \(\sqrt{16}\) → non rep.
   B. \(\sqrt{5}\) → 2.236... non-ter.
   C. \(\frac{5}{8}\) = .625
   D. \(\frac{5}{9}\) = .55...

6. Which best represents the value of \(2\sqrt{45}\)?
   A. 13.6
   B. 13.4
   C. 9.0
   D. 8.7
   \[ \boxed{13.4} \]
Coached Example

The area of a square is 67 square meters. Find the exact length, in meters, of one side of the square. Then graph that value on a number line.

The area, \( A \), of a square is found using the formula \( A = s^2 \), where \( s \) shows the length of one side.

So, the length of one side, \( s \), can be found by taking the square root of \( 67 \).

The exact length of each side of the square is \( \sqrt{67} \) meters.

To graph that number on a number line, first estimate its value as a decimal.

67 lies between the perfect squares 64 and 81.

\[ \sqrt{64} = 8 \]

and the square root of the other perfect square is \( 9 \).

So, \( \sqrt{67} \) lies between the whole numbers 8 and 9, but is closer to 8.

Use guess and check to estimate its value to the nearest tenth.

Try 8.1:

\[ 8.1^2 = 8.1 \cdot 8.1 = 65.61 \]  close, but less than 67.

Try 8.2:

\[ 8.2^2 = 8.2 \cdot 8.2 = 67.24 \]  closer to 67

Which is closer to 67: 8.1² or 8.2²? 8.2

So, \( \sqrt{67} \) is between 8.1 and 8.2, but is closer to 8.2.

Graph \( \sqrt{67} \) on the number line below.

\[ \sqrt{67} \]

8  8.1  8.2  8.3  8.4  8.5  8.6  8.7  8.8  8.9  9

The exact length of one side of the square is \( \sqrt{67} \) meters.

The number line above shows the approximate decimal value.