

Problems of the Week

FSA Countdown Week 4 - PA

1.

A cargo ship has a stack of shipping containers. The stack is x containers wide, x containers long, and x containers tall. Circle all of the equations that could represent the total number of containers on the ship. 8.EE.2

$x^3 = 64$

$x^3 = 16$

$100 = x^3$

$x^3 = 9$

$27 = x^3$

$x^3 = 0.125$

$0.343 = x^3$

$x^3 = 8$

$216 = x^3$

2.

Imani is analyzing numbers. 8.NS.1, 8.NS.2

Part A: Select whether the number in each situation is rational or irrational.

A circumference of a circular picture frame is 5π , or 15.7079632..., inches.

Rational**Irrational**

A bottle contains $0.\overline{6}$ kiloliters of water.

The sales tax on a purchase was 6.25%.

The net change in Patrick's stock was $-\$11$.

Part B: The diagonal of a rectangular carpet is $6\sqrt{3}$ feet long. Estimate the length of the diagonal to the nearest tenth of a foot. Then explain why you can only estimate the length, not find its exact value.

3. The diagonal of a rectangular floor is $\sqrt{40}$ feet long. 8.NS.1

Part A: Select all of the sets of numbers to which $\sqrt{40}$ belongs.

- real
- integer
- rational
- irrational
- whole
- natural

Part B: Change one digit in $\sqrt{40}$ to a different digit so that the number belongs to a different set of numbers. Explain why changing that digit changes the sets to which the number belongs.

4. Select whether the number in each situation is rational or irrational. 8.NS.1

	Rational	Irrational
The length of a ribbon is $23.0\overline{83}$ centimeters.	<input type="checkbox"/>	<input type="checkbox"/>
The depth of a shark with respect to the surface of the water is -115.5 meters.	<input type="checkbox"/>	<input type="checkbox"/>
Amy calculates that each side of a square measures $2\sqrt{9}$ inches.	<input type="checkbox"/>	<input type="checkbox"/>
The circumference of a circular pie pan is 6π , or $18.8495559\dots$, inches.	<input type="checkbox"/>	<input type="checkbox"/>