## Unit 8 Lesson 12: Edge Lengths and Volumes

### 1 Ordering Squares and Cubes (Warm up)

#### Student Task Statement

Let $a$, $b$, $c$, $d$, $e$, and $f$ be positive numbers.

Given these equations, arrange $a$, $b$, $c$, $d$, $e$, and $f$ from least to greatest. Explain your reasoning.

* $a^{2}=9$
* $b^{3}=8$
* $c^{2}=10$
* $d^{3}=9$
* $e^{2}=8$
* $f^{3}=7$

### 2 Name That Edge Length!

#### Student Task Statement

Fill in the missing values using the information provided:



| sides | volume | volume equation |
| --- | --- | --- |
|   | $27 in^{3}$ |   |
| $\sqrt[3]{5}$ |   |   |
|   |   | $\left(\sqrt[3]{16}\right)^{3}=16$ |

### 3 Card Sort: Rooted in the Number Line

#### Student Task Statement

Your teacher will give your group a set of cards. For each card with a letter and value, find the two other cards that match. One shows the location on a number line where the value exists, and the other shows an equation that the value satisfies. Be prepared to explain your reasoning.



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