

# Lesson 10: Solve Problems with Decimals

- Let's round and order decimals to solve problems.

## Warm-up: Notice and Wonder: The Luge

What do you notice? What do you wonder?



A	B
48.532	82.13
48.561	82.75
48.626	82.81
48.634	83.07
48.708	82.80





## 10.2: Compare Speeds

The table shows the top speeds, in miles per hour, of 5 luge athletes:

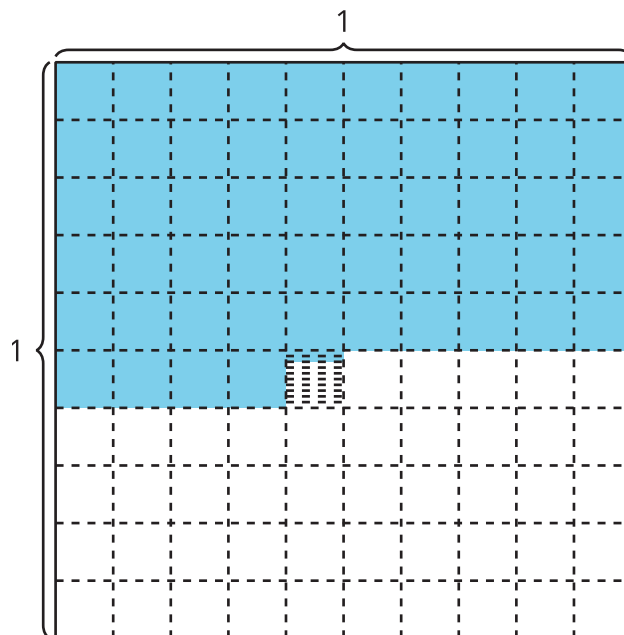
athlete	speed (miles per hour)
Athlete 1	82.13
Athlete 2	82.75
Athlete 3	82.81
Athlete 4	83.07
Athlete 5	82.80

- List the top speeds of the athletes in decreasing order.
- Do any of the athletes have the same top speed rounded to the nearest tenth of a mile per hour? What about rounded to the nearest mile per hour?
- There was a sixth athlete who was faster than the rider at 82.80 mph, but slower than the rider at 82.81 mph. What could the speeds of the 3 athletes be if all measured to the nearest thousandth of a mile per hour?

## Section Summary

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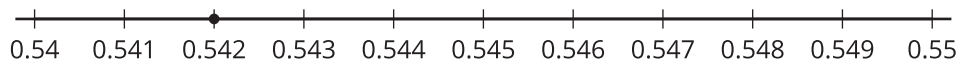
In this section, we represented decimals to the thousandths place.



The shaded region of the diagram represents 0.542. The 5 shaded rows are each a tenth or 0.1, the 4 shaded small squares are each a hundredth or 0.01, and the 2 shaded tiny rectangles are each a thousandth or 0.001. The decimal 0.542 can be represented in other ways

- $\frac{542}{1,000}$
- five hundred forty-two thousandths
- $(5 \times 0.1) + (4 \times 0.01) + (2 \times 0.001)$

We can also locate 0.542 on a number line.



The number line shows that 0.542 is closer to 0.54 than to 0.55 so 0.542 rounded to the nearest hundredth is 0.54.