Closest Whole Unit

Use the halfway mark to estimate a length.

5.GM.3.5 "Estimate lengths and geometric measurements to the nearest whole unit, using benchmarks in customary and metric measurement systems."

NAME _____ DATE _____

LOWER WHOLE UNIT

If the dot is before the halfway mark, the length is closer to the lower whole unit.

A ribbon is 6.2 centimeters long. Its nearest whole length is 6 centimeters.



HIGHER WHOLE UNIT

If the dot is past or exactly on the halfway mark, use the higher whole unit. A length exactly halfway rounds up.

A pencil is 9.8 inches long. Its nearest whole length is 10 inches.



1 SORT

8 items

SORT: Circle LOWER or HIGHER for each dot, using inches for odd-numbered figures and centimeters for even-numbered figures; PROVE IT: choose two figures and explain how the halfway mark helped you decide.

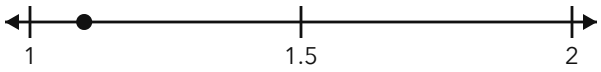
1. 

Figure 1

LOWER HIGHER

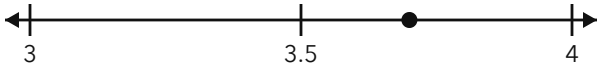
2. 

Figure 2

LOWER HIGHER

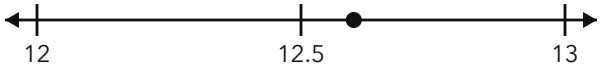
3. 

Figure 3

LOWER HIGHER

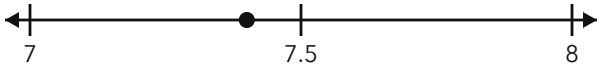
4. 

Figure 4

LOWER HIGHER

5.

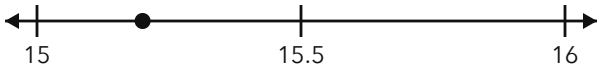


Figure 5

LOWER **HIGHER**

6.

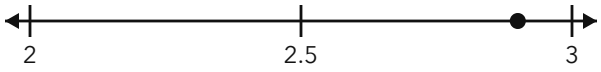


Figure 6

LOWER **HIGHER**

7.

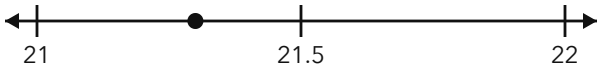


Figure 7

LOWER **HIGHER**

8.

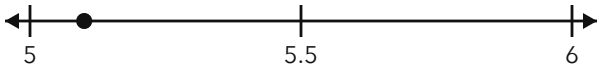


Figure 8

LOWER **HIGHER**

2 PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

MAKE YOUR OWN: Write one length in inches that rounds to the LOWER whole inch and one length in centimeters that rounds to the HIGHER whole centimeter; give the nearest whole length for each.

LOWER _____

HIGHER _____

CHALLENGE

CHALLENGE: A strip is 4.5 inches long, exactly halfway between two whole inches; what is its nearest whole-inch length, and why?

ANSWER KEY

Closest Whole Unit

GRADE 5 · 5.GM.3.5

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (numberline)	**LOWER**	1.1 inches is before 1.5 inches, so it rounds to 1 inch.
2	Figure 2 (numberline)	**HIGHER**	3.7 centimeters is past 3.5 centimeters, so it rounds to 4 centimeters.
3	Figure 3 (numberline)	**HIGHER**	12.6 inches is past 12.5 inches, so it rounds to 13 inches.
4	Figure 4 (numberline)	**LOWER**	7.4 centimeters is before 7.5 centimeters, so it rounds to 7 centimeters.
5	Figure 5 (numberline)	**LOWER**	15.2 inches is before 15.5 inches, so it rounds to 15 inches.
6	Figure 6 (numberline)	**HIGHER**	2.9 centimeters is past 2.5 centimeters, so it rounds to 3 centimeters.
7	Figure 7 (numberline)	**LOWER**	21.3 inches is before 21.5 inches, so it rounds to 21 inches.
8	Figure 8 (numberline)	**LOWER**	5.1 centimeters is before 5.5 centimeters, so it rounds to 5 centimeters.

PART 2 · PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **LOWER**: 8.1 inches rounds to 8 inches.
- **HIGHER**: 11.7 centimeters rounds to 12 centimeters.

Challenge: The nearest whole-inch length is 5 inches because a length exactly halfway rounds up.

For PROVE IT, accept any two figures with explanations that correctly compare each dot to the halfway mark. Odd-numbered figures use inches, and even-numbered figures use centimeters.