Spot the Jumps

Sort number lines by the spaces between marked points.

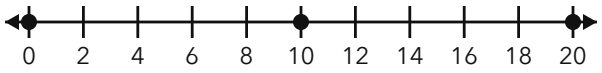
4.A.1 "Describe, create, and analyze multiple representations of patterns to solve real-world and mathematical problems. Create an input/output chart or table to represent or extend a numerical pattern..."

NAME _____ DATE _____

SAME JUMP

Read the marked points from left to right. If you add the same number each time to reach the next point, the pattern is STEADY.

The marked points are 0, 10, and 20. Add 10 each time.



DIFFERENT JUMPS

Read the marked points from left to right. If you must add different numbers to reach each next point, the jumps are CHANGING.

The marked points are 0, 6, and 20. The jumps are 6 and 14.



1 SORT

8 items

For Part 1, circle STEADY or CHANGING for each figure, and for Part 2, choose one figure from each group and explain how you knew.

1. 

Figure 1

STEADY **CHANGING**

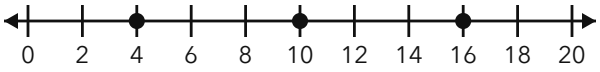
2. 

Figure 2

STEADY **CHANGING**

3. 

Figure 3

STEADY **CHANGING**

4. 

Figure 4

STEADY **CHANGING**

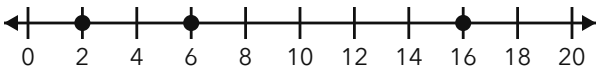
5. 

Figure 5

STEADY **CHANGING**

6.

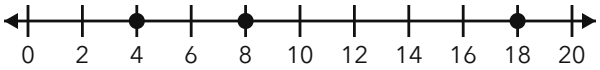


Figure 6

STEADY **CHANGING**

7.



Figure 7

STEADY **CHANGING**

8.

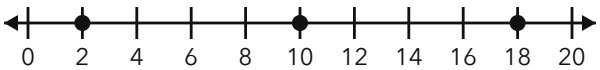


Figure 8

STEADY **CHANGING**

2 PROVE IT

Explain your thinking

Choose one figure from each group and explain how you knew.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Draw two number lines from 0 to 20, counting by twos, and mark three points on each: make one STEADY example and one CHANGING example.

STEADY

CHANGING

CHALLENGE

Draw a number line from 0 to 20, counting by twos, with four marked points that are STEADY; write the addition rule and tell what the next marked number would be.

ANSWER KEY

Spot the Jumps

GRADE 4 · 4.A.1

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (numberline)	**STEADY**	Both jumps are 6.
2	Figure 2 (numberline)	**STEADY**	Both jumps are 6.
3	Figure 3 (numberline)	**CHANGING**	The jumps are 4 and 8.
4	Figure 4 (numberline)	**STEADY**	Both jumps are 8.
5	Figure 5 (numberline)	**CHANGING**	The jumps are 4 and 10.
6	Figure 6 (numberline)	**CHANGING**	The jumps are 4 and 10.
7	Figure 7 (numberline)	**STEADY**	Both jumps are 6.
8	Figure 8 (numberline)	**STEADY**	Both jumps are 8.

PART 2 · PROVE IT

Task: Choose one figure from each group and explain how you knew.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **STEADY**: On a number line from 0 to 20 counting by twos, mark 4, 12, and 20.
- **CHANGING**: On a number line from 0 to 20 counting by twos, mark 0, 8, and 18.

Challenge: Mark 2, 6, 10, and 14. The rule is add 4, so the next number is 18.

For Part 2, accept explanations that compare the two jumps in each chosen figure. In Part 3, check the spaces between marked points, not just the spaces between number line tick marks.