Ticket Input Test

Sort values that fit a ticket model.

A1.F.1 "Understand functions as descriptions of covariation (how related quantities vary together) in real-world and mathematical problems. Distinguish between relations and functions. Identify the dependent variable, independent variable..."

NAME _____ DATE _____

ALLOWED INPUT

An input is allowed when it makes sense in the situation. If the input counts objects, it must be a whole number that is 0 or more.

A bakery sells loaves of bread. The marked number could be the number of loaves sold.



BARRED INPUT

An input is barred when it does not make sense in the situation. A negative number or part of a whole object cannot be a count of objects.

A bakery sells loaves of bread. The marked number could not be the number of loaves sold.



1 SORT

8 items

Part 1 SORT: A museum charges $5 per ticket, so C(t) = 5t, where t is the number of tickets bought; for each marked value of t, circle ALLOWED or BARRED.

1.



Figure 1

ALLOWED **BARRED**

2.



Figure 2

ALLOWED **BARRED**

3.



Figure 3

ALLOWED **BARRED**

4.



Figure 4

ALLOWED **BARRED**

5.

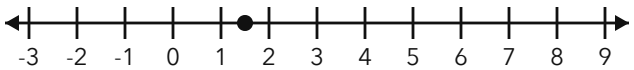


Figure 5

ALLOWED **BARRED**

6.



Figure 6

ALLOWED **BARRED**

7.



Figure 7

ALLOWED **BARRED**

8.



Figure 8

ALLOWED **BARRED**

2 PROVE IT

Explain your thinking

Pick two figures and explain why each marked value belongs in its category.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new value of t that is ALLOWED and one that is BARRED.

ALLOWED _____

BARRED _____

CHALLENGE

Part 3 CHALLENGE: If you can spend at most $20 on tickets, list every allowed value of t and every possible value of C(t).

ANSWER KEY

Ticket Input Test

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (numberline)	**ALLOWED**	Zero tickets is possible.
2	Figure 2 (numberline)	**ALLOWED**	Two tickets is a possible count.
3	Figure 3 (numberline)	**BARRED**	A ticket count cannot be negative.
4	Figure 4 (numberline)	**ALLOWED**	Seven tickets is a possible count.
5	Figure 5 (numberline)	**BARRED**	A ticket count must be a whole number.
6	Figure 6 (numberline)	**BARRED**	A ticket count cannot be negative.
7	Figure 7 (numberline)	**ALLOWED**	One ticket is a possible count.
8	Figure 8 (numberline)	**ALLOWED**	Nine tickets is a possible count.

PART 2 · PROVE IT

Task: Pick two figures and explain why each marked value belongs in its category.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **ALLOWED**: t = 6
- **BARRED**: t = -2

Challenge: t: 0, 1, 2, 3, 4. C(t): $0, $5, $10, $15, $20.

For Part 2, accept explanations that connect each marked value to a whole-number ticket count of 0 or more. Sample: Figure 5 is BARRED because 1.5 is not a whole number of tickets.