Name: Richard

QUIZ 4 ♣

MATH 211
January 31, 2023

In each numbered question below, a sentence or expression is given. Say whether it is a statement, an open sentence, or neither. Also say whether it is true or false, neither true nor false, or whether that depends on the circumstances.

	Sentence or expression	Statement? Open sentence? Neither?	True? False? Neither? Depends?
1.	$\{2,4,6\} \in \mathscr{P}(X)$	Open Sentence	Depends on x
2.	$\mathbb{Z} \times \emptyset = \emptyset$	Statement	True
3.	The set $\{\emptyset\}$ is the only set with cardinality zero.	Statement	False
4.	List the set X between braces.	Neither	Neither

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	Sentence or expression	Statement? Open sentence? Neither?	True? False? Neither? Depends?
1.	$(0,1) \in \mathbb{Z} \times \mathbb{N}$	Statement	True
2.	$\{2,4,6\} \subseteq X$	Open Sentence	Depends on x
3.	The number 2 is the only odd prime number.	Statement	False
4.	The number x is an odd prime number.	Open Sentence	Depends on x

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	Sentence or expression	Statement? Open sentence? Neither?	True? False? Neither? Depends?
1.	$\emptyset \in \mathscr{P}(\mathbb{Z}) - \mathscr{P}(\mathbb{N})$	Statement	False
2.	$\mathscr{P}(\mathbb{Z}) - \mathscr{P}(\mathbb{N})$	Neither	Neither
3.	If the number x is negative, then $x < -x$.	Statement	True
4.	The number x an integer, and $x < -x$.	Open sentence	Depends

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	Sentence or expression	Statement? Open sentence? Neither?	True? False? Neither? Depends?
1.	$\mathscr{P}(\mathbb{Z}) \cap \mathscr{P}(\mathbb{N})$	Neither	Neither
2.	$\emptyset \in \mathscr{P}(\mathbb{Z}) \cap \mathscr{P}(\mathbb{N})$	Statement	True
3.	The derivative of a constant function is zero.	Statement	True
4.	The derivative of the function f is zero.	Open setence	Depends