VECTOR CALCULUS DR. PAUL L. BAILEY Responses 0403 Thursday, April 2, 2020

Here are the "answers".

• You stand in a zephyr.

Decide whether divergence at you is positive, negative, or zero in the following cases.

•	You are standing at the entrance to baseball stadium ten minutes before the game begins.	Zero
•	You are sitting in the stands at a baseball game five minutes before the first pitch.	Positive
•	You are sitting in the stands at a baseball game in the middle of the fourth inning.	Zero
•	You are sitting in the stands at Dodger's Stadium in the eighth inning just after the other team hit a grand slam to go ahead 11 to 2.	Negative
•	You threw a rock at a hornet's nest and they know you did it.	Negative
•	Your friend just broke wind in a crowded shopping mall.	Positive
•	You yell "fire" in a crowded movie theater.	Positive
•	You yell "free beer here" in the middle of Ted Nugent concert.	Negative
•	You are standing in the middle of a Ted Nugent concert (covering your ears) when the intercom announces "free beer outside".	Zero

Question 1. For divergence to be negligible, is the fluid remaining in the same location?

Answer. The divergence is zero if the incoming equals the outgoing. So no, it doesn't have to be standing still.  $\hfill\Box$ 

Zero