When is Acceleration Positive? Negative?

*Remember, direction matters!*

Complete the following chart

|  |  |  |
| --- | --- | --- |
| **Speeding up/Slowing down** | **Direction** | **Acceleration (+/-)** |
| Speeding up | Forward |  |
| Speeding up | Backward |  |
| Slowing down | Forward |  |
| Slowing down | Backward |  |

Classify the below examples as **positive** or **negative** acceleration.

A driver sees a red light up ahead and steps on his brakes to stop his car.

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To catch up to 1st place, Steven speeds up to the runner ahead of him.

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A driver speeds up while driving in the reverse direction.

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A skater is skating backwards and is slowly coming to a stop.

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*\*Answer the following question. Tear the bottom half of this sheet and hand it in before class. \**

Give an example of an object with zero acceleration but is still moving:

Conceptual questions

Can an object have zero acceleration and zero velocity? Give an example.

Can an object have a non-zero (positive or negative) acceleration and a non-zero velocity? Give an example.

Can an object have zero acceleration and a non-zero velocity? Give an example.

\*\*Can an object have a non-zero (positive or negative) acceleration and a zero velocity? Give an example.