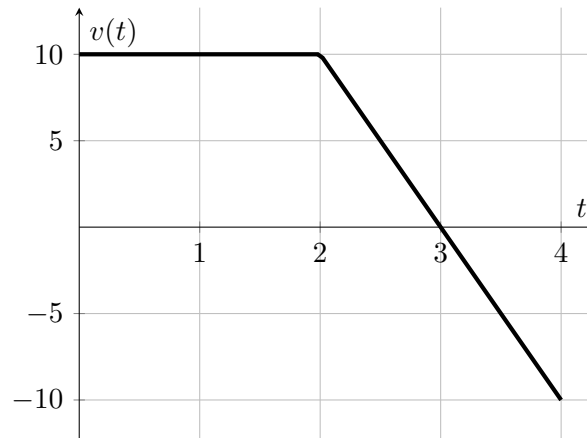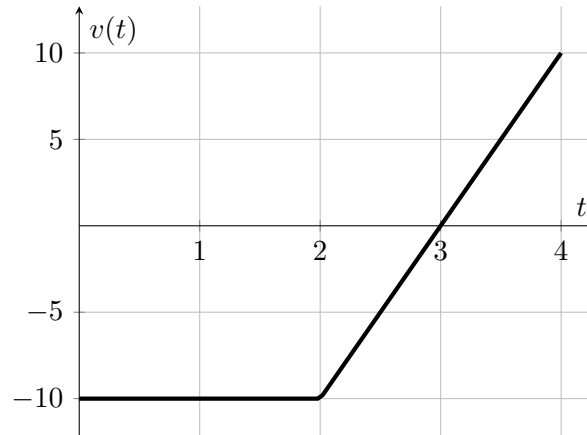**Name:** _____

1. The *velocity* $v(t)$, in feet per second, of a model rocket, t seconds after launch, has graph shown below.

(a) Find the total distance traveled by the rocket in the first three seconds (between seconds 0 and 3). Briefly explain how you found your answer.

(b) Find the total *change in position* of the rocket in the first *four* seconds (between seconds 0 and 4). Explain why this is less than the distance traveled in the first three seconds.
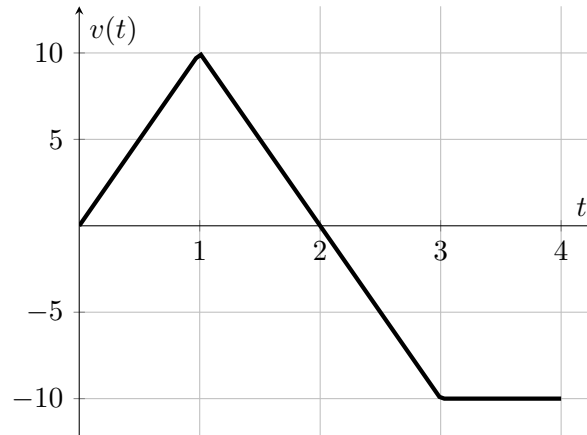
Name: _____

1. The *velocity* $v(t)$, measured in feet per second, of a bungee-jumper, t seconds after he jumps, has graph shown below.

   (a) Find the total distance traveled by the bungee-jumper in the first three seconds (between seconds 0 and 3). Briefly explain how you found your answer.

   (b) Find the total *change in position* of the bungee-jumper in the first *four* seconds (between seconds 0 and 4). Explain why this is negative and how it relates to the distance traveled from the previous question.
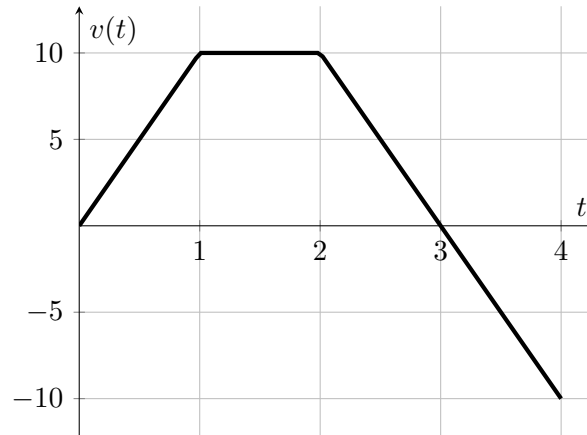
Name: _____

1. The *velocity* $v(t)$, in feet per second, of a model rocket launched from the top of a skyscraper, t seconds after launch, has graph shown below.

(a) Find the total distance traveled by the rocked in the first two seconds (between seconds 0 and 2). Briefly explain how you found your answer.

(b) Find the total *change in position* of the rocked in the first *four* seconds (between seconds 0 and 4). Explain why this is less than the distance traveled in the first two seconds.

Name: _____

1. The *velocity* $v(t)$, in feet per second, of an amusement park ride that propels riders forwards and backwards along a straight path, t seconds after it starts, has graph shown below.

(a) Find the total distance traveled by the ride in the first three seconds (between seconds 0 and 3). Briefly explain how you found your answer.

(b) Find the total *change in position* of the ride in the first *four* seconds (between seconds 0 and 4). Explain why this is less than the distance traveled in the first three seconds.