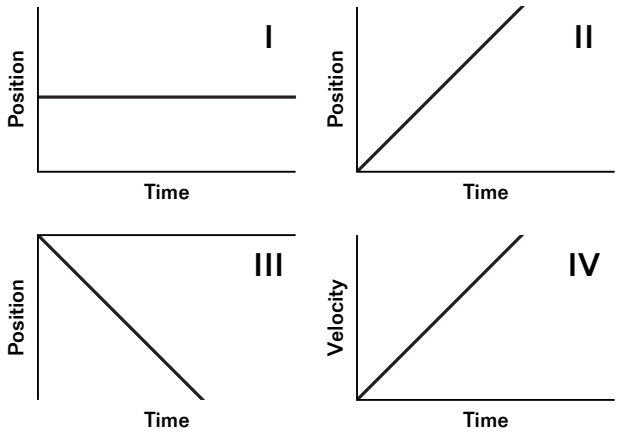
Standardized Test Prep

MULTIPLE CHOICE

Use the graphs below to answer questions 1–3.



1. Which graph represents an object moving with a constant positive velocity?

A. I
B. II
C. III
D. IV

2. Which graph represents an object at rest?

F. I
G. II
H. III
J. IV

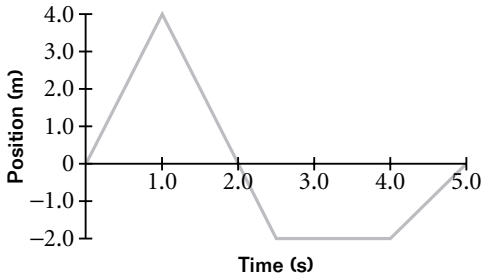
3. Which graph represents an object moving with constant positive acceleration?

A. I
B. II
C. III
D. IV

4. A bus travels from El Paso, Texas, to Chihuahua, Mexico, in 5.2 h with an average velocity of 73 km/h to the south. What is the bus's displacement?

F. 73 km to the south
G. 370 km to the south
H. 380 km to the south
J. 14 km/h to the south

Use the following position-time graph of a squirrel running along a clothesline to answer questions 5–6.



5. What is the squirrel's displacement at time $t = 3.0$ s?

A. −6.0 m
B. −2.0 m
C. +0.8 m
D. +2.0 m

6. What is the squirrel's average velocity during the time interval between 0.0 s and 3.0 s?

F. −2.0 m/s
G. −0.67 m/s
H. 0.0 m/s
J. +0.53 m/s

7. Which of the following statements is true of acceleration?

A. Acceleration always has the same sign as displacement.
B. Acceleration always has the same sign as velocity.
C. The sign of acceleration depends on both the direction of motion and how the velocity is changing.
D. Acceleration always has a positive sign.

8. A ball initially at rest rolls down a hill and has an acceleration of 3.3 m/s^2. If it accelerates for 7.5 s, how far will it move during this time?

F. 12 m
G. 93 m
H. 120 m
J. 190 m