

1. An object starts from rest and accelerates at a rate of 3.0 meters per second² for 6.0 seconds. The velocity of the object at the end of this time is

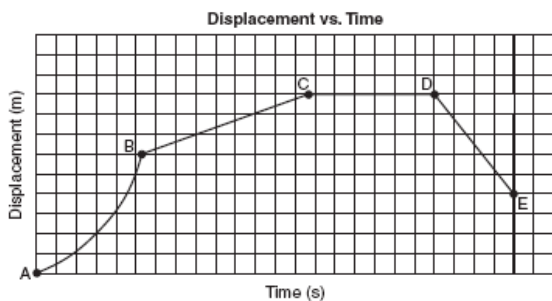
- (1) 0.5 m/s (3) 3.0 m/s
 (2) 2.0 m/s (4) 18 m/s

Proof: Show calculation.

2. Oil drips from a car at a rate of 1 drip every 0.1 second. Which of the patterns below would best represent the pattern of drips from the car if it were accelerating constantly?

- (1)
 (2)
 (3)
 (4)

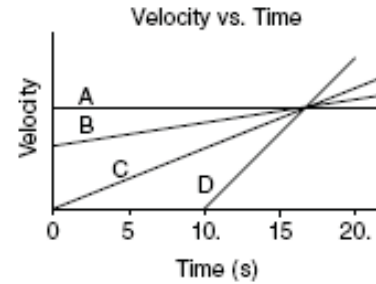
Proof: Explain your reasoning.



3. During which interval is the object moving at a constant forward velocity?

- (1) AB (2) BC (3) CD (4) DE

Proof: Explain your reasoning.



4. Which object has the greatest acceleration during the time interval 10 – 15 seconds?

- (1) A (2) B (3) C (4) D

Proof: Explain your reasoning.

5. A car having an initial velocity of 12 meters per second west slows uniformly to 2.0 meters per second west in 4.0 seconds. The acceleration of the car during this 4.0 second time interval is

- (1) 2.5 m/s² west (3) 2.5 m/s² east
 (2) 6.0 m/s² west (4) 6.0 m/s² east

Proof: Show calculation.

6. What is the **order of magnitude** of the final velocity of an object that begins from rest and accelerates at a rate of 20 meters per second² for 5.0 seconds?

- (1) 1 (2) 2 (3) 3 (4) 4

Proof: Explain your reasoning / show calculations.