- 1. A student walks 160 m in 150 s. The student stops for 30 s and then walks 210 m farther in 140 s. What is the average speed of the entire walk?
 - A 0.53 m/s
 - B 0.80 m/s
 - C 1.2 m/s
 - D 1.3 m/s

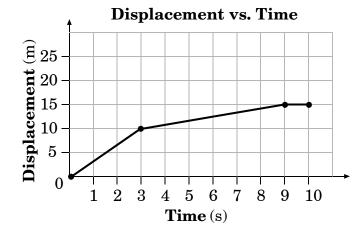
2. This table gives the position of a car as a function of time.

Time (s)	Position (m)
0	5
1	9
2	13
3	13
4	15
5	20

What is the average velocity during the interval 2 s to 3 s?

- A 0 m/s
- B 2 m/s
- C 3 m/s
- D 4 m/s

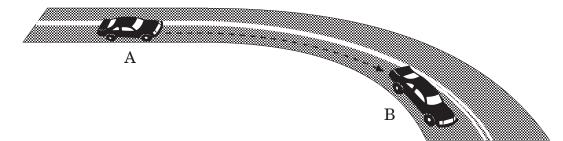
3. Consider this displacement vs. time graph representing the motion of a bicyclist.



What is the average velocity of the bicyclist between 0 and 3 seconds?

- A 3.3 m/s
- B 5.0 m/s
- C 7.5 m/s
- D 10. m/s
- 4. If the acceleration of a truck over a given time interval is zero, how does the instantaneous velocity of that truck at any instant during that interval compare to its average velocity over the interval?
 - A Instantaneous velocity would be greater than average velocity.
 - B Instantaneous velocity would be less than average velocity.
 - C Instantaneous velocity would equal average velocity.
 - D Instantaneous velocity will vary in value compared to average velocity.

- EOC Physics Sample Items Goal 2
- 5. A car travels from A to B at a constant 100 km/hr.

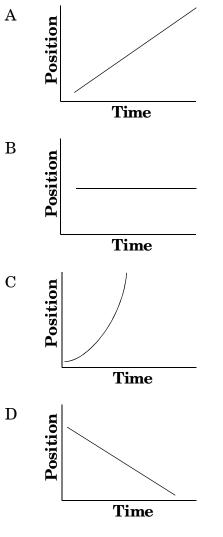


Which of the following changes?

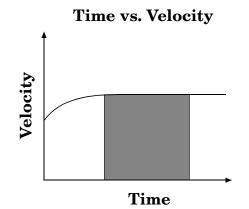
- A speed
- B velocity
- C frame of reference
- D speed and velocity
- 6. A person walks 10 km due east, then 30 km at 60° N of E. What is the shortest route back to his starting point?
 - A $36 \text{ km} \text{ at } 46^{\circ} \text{ S of W}$
 - B $36 \text{ km} \text{ at } 46^{\circ} \text{ N} \text{ of E}$
 - C 40 km at 46° S of W
 - D 40 km at 46° N of W

- 7. An airplane went from 120 m/s to 180 m/s in 4.0 seconds. What was its acceleration?
 - A 15 m/s/s
 - B 30. m/s/s
 - C 45 m/s/s
 - D 60. m/s/s

8. Which position vs. time graph indicates an object undergoing uniformly accelerated motion?

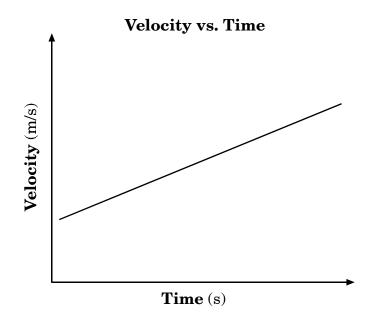


- 9. A rocket lifts vertically off the launching pad and reaches a final velocity of 450 m/s in 15 seconds. What is its acceleration?
 - A 30. m/s/s
 - B 45 m/s/s
 - C 60. m/s/s
 - D 450 m/s/s
- 10. What does the area bound by this velocity curve and time axis represent?



- A acceleration
- B displacement
- C position
- D velocity

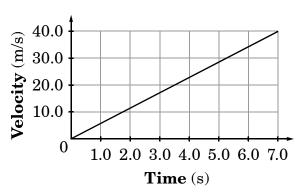
11. This is a velocity vs. time graph for a moving car.



What does the slope of the line on this graph represent?

- A displacement
- B average velocity
- C acceleration
- D momentum

12. The graph represents the velocity of a car.

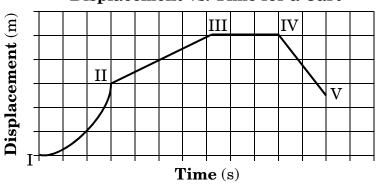


Velocity vs. Time

What is the displacement of the car during the time interval shown?

- A 0.18 m
- B 5.7 m
- C 140 m
- D 280 m

13. This displacement-time graph below represents the motion of a cart along a straight line.

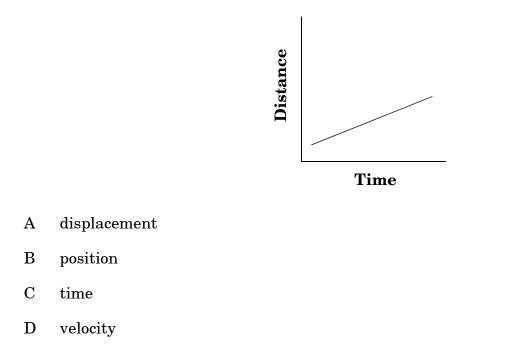


Displacement vs. Time for a Cart

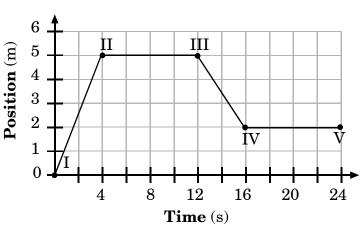
During which interval was the cart accelerating?

- A I–II
- B II–III
- C III–IV
- D IV–V

14. Based on this graph, which is constant?



15. This graph shows the position of a car along a straight path as a function of time.

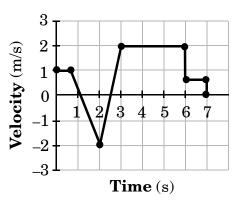


Position vs. Time

What is the car's velocity at 2.0 sec?

- A 1.25 m/s
- B 2.50 m/s
- C 5.00 m/s
- D 10.0 m/s

16. This is a velocity vs. time graph of an object.

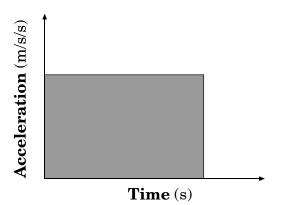


Velocity vs. Time

What is the velocity of the object at t = 3s?

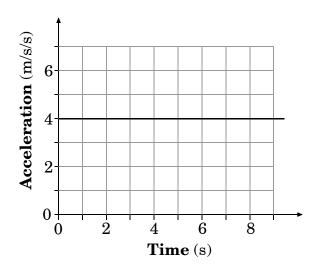
- A _2 m/s
- B 0 m/s
- C = 1 m/s
- D 2 m/s

17. What does the shaded area of the acceleration vs. time graph indicate?



- A total displacement
- B change in velocity
- C instantaneous velocity
- D average displacement

18. This is an acceleration vs. time graph of an object.



If the object's initial velocity is 0 m/s, what is the velocity of an object at t = 8.0 s?

- A 0.50 m/s
- B 2.0 m/s
- C 12 m/s
- D 32 m/s

End of Goal 2 Sample Items

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Physics Goal 2 Sample Items Key Report

1	U	nalyze velocity as a rate of change of position:		
	Thinking Skill:	Applying	Correct Answer:	С
2	Objective:2.01Analyze velocity as aa. Average velocity.b. Instantaneous veloThinking Skill:	rate of change of position: city. Analyzing	Correct Answer:	А
3	Objective: 2.01 Analyze velocity as a a. Average velocity. b. Instantaneous velo Thinking Skill:	Č .	Correct Answer:	А
4	Objective:2.01 Analyze velocity as aa. Average velocity.b. Instantaneous velocity. Thinking Skill:		Correct Answer:	C
5	Objective: 2.02 Compare and contras a. Speed and velocity. Thinking Skill:		ce and displacement. Correct Answer:	В
6	Objective: 2.02 Compare and contras a. Speed and velocity. Thinking Skill:	t as scalar and vector quantities: b. Distan Knowledge	ce and displacement. Correct Answer:	A
7	Objective: 2.03Analyze acceleration Thinking Skill:	as rate of change in velocity. (Inclu Applying		.) A
8	Objective: 2.03Analyze acceleration Thinking Skill:	as rate of change in velocity. (Inclu Analyzing	de negative acceleration Correct Answer:	.) C

Physics Goal 2 Sample Items Key Report

9	Objective: 2.03 Analyze acceleration Thinking Skill:	as rate of change in velocity. (Inc Applying	lude negative acceleration Correct Answer:	on) A
10	Objective:2.04 Using graphical and motion and the relat a.acceleration.b. velocity.d. Instantaneous velocity. Thinking Skill:	mathematical tools, design and co ionships among: c. Instantaneous vel	-	inear B
11	Objective: 2.03		lude negative acceleration Correct Answer:	on) C
12	Objective: 2.04 Using graphical and motion and the relat a. acceleration. Thinking Skill:	mathematical tools, design and co ionships among:	onduct investigations of l Correct Answer:	inear C
13	Objective: 2.04Using graphical andmotion and the relata.acceleration.b. velocity.d. Instantaneous velocity. Thinking Skill:	mathematical tools, design and co ionships among: c. Instantaneous vel	-	inear A
14	Objective: 2.04Using graphical and motion and the relat a.acceleration.b. velocity. d. Instantaneous velocity Thinking Skill:	mathematical tools, design and co ionships among: c. Instantaneous vel	-	inear D

Physics Goal 2 Sample Items Key Report

15	Objective: 2.04 Using graphical and mathematical tools, design and conduct investigations of linea motion and the relationships among: a.acceleration.			
	b. velocity.	elocity.		
	d. Instantaneous velocity	_		
	Thinking Skill: Analy	zing	Correct Answer:	Α
16	Objective: 2.04 Using graphical and mather motion and the relationship a.acceleration.		onduct investigations of l	inear
	b. velocity.	c. Instantaneous ve	locity.	
	d. Instantaneous velocity		U	
	Thinking Skill: Analy	zing	Correct Answer:	D
17	Objective: 2.04 Using graphical and mather motion and the relationship a.acceleration.		onduct investigations of l	inear
	b. velocity.	c. Instantaneous ve	locity.	
	d. Instantaneous velocity		U	
	Thinking Skill: Analy	zing	Correct Answer:	В
18	Objective: 2.04 Using graphical and mather motion and the relationship a.acceleration.	s among:	_	inear
	b. velocity.	c. Instantaneous ve	elocity.	

d. Instantaneous velocity

Thinking Skill: Analyzing

Correct Answer: D