Name:		Class:	Date:	ID: A
Web r	eview - Ch 3 m	otion in two dimensio	ns practice test	
_	e Choice the choice that bes	t completes the statement or	answers the question.	
	Which type o a. scalar b. vector c. trigonom d. algebraic e. dimensio	etric variable	y both magnitude and direction?	
		following is an example of a	vector quantity?	
	3. A student add possible choice a. 100 b. 200 c. 260 d. 40 e. 150	ce for the magnitude of the r		
	a. north of cb. south of cc. north of cd. south of c	east. east. west.	s east. If $\vec{C} = \vec{B} - \vec{A}$, then vector \vec{C} information given.	2 points:
	speed of 12 m	/s. A stop watch measures t	e the horizontal from the top edge he stone's trajectory time from to 9.8 m/s ² and air resistance is neg	p of cliff to bottom to be
	of a 35 m bui	-	15 m/s at an angle of 53° above to resistance is negligible, then what it hits the ground?	-

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	7.	A stone is thrown with an initial speed of 15 m/s at an angle of 53° above the horizontal from the to of a 35 m building. If $g = 9.8$ m/s² and air resistance is negligible, then what is the speed of the rock as it hits the ground? a. 15 m/s b. 21 m/s c. 30 m/s d. 36 m/s e. 42 m/s	-
	8.	A bridge that was 5.0 m long has been washed out by the rain several days ago. How fast must a cabe going to successfully jump the stream? Although the road is level on both sides of the bridge, the road on the far side is 2.0 m lower than the road on this side. a. 5.0 m/s b. 7.8 m/s c. 13 m/s d. 25 m/s e. 27 m/s	
	9.	Arvin the Ant is on a picnic table. He travels 30 cm eastward, then 25 cm northward, and finally 15 cwestward. What is the magnitude of Arvin's net displacement? a. 70 cm b. 57 cm c. 52 cm d. 29 cm e. 18 cm	em
	10.	Arvin the Ant travels 30 cm eastward, then 25 cm northward, and finally 15 cm westward. What is Arvin's direction of displacement with respect to his original position? a. 59° N of E b. 29° N of E c. 29° N of W d. 77° N of E e. 15° N of W	
	11.	A runner circles a track of radius 100 m in 100 s moving at a constant rate. If the runner was initiall moving north, what has been the runner's average acceleration when halfway around the track? a. At a constant rate, the average acceleration would be zero. b. 2 m/s², west c. 0.25 m/s², south d. 1.5 m/s², east e. No answer is correct.	у
	12.	A baseball thrown from the outfield is released from shoulder height at an initial velocity of 29.4 m/at an initial angle of 30.0° with respect to the horizontal. If it is in its trajectory for a total of 3.00 s before being caught by the third baseman at an equal shoulder-height level, what is the ball's net vertical displacement during its 3-s trajectory? a. 11.0 m b. 9.80 m c. 22.1 m d. zero e. 44.1 m	's

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	3. A ball is rolled horizontally off a table with an initial speed of 0.24 m/s. A stopwatch measures ball's trajectory time from table to the floor to be 0.30 s. What is the height of the table? (<i>g</i> = 9 and air resistance is negligible) a. 0.11 m b. 0.22 m c. 0.33 m d. 0.44 m e. 0.55 m	
	 4. A ball is rolled horizontally off a table with an initial speed of 0.24 m/s. A stop watch measure ball's trajectory time from table to the floor to be 0.30 s. How far away from the table does the land? (g = 9.8 m/s² and air resistance is negligible) a. 0.055 m b. 0.072 m c. 1.2 m d. 1.9 m e. 2.5 m 	
	 5. A stone is thrown at an angle of 30° above the horizontal from the top edge of a cliff with an inspeed of 12 m/s. A stop watch measures the stone's trajectory time from top of cliff to bottom 5.6 s. How far out from the cliff's edge does the stone travel horizontally? (g = 9.8 m/s² and air resistance is negligible) a. 58 m b. 154 m c. 120 m d. 175 m e. 197 m 	to be
	 6. A rifle is aimed horizontally toward the center of a target 100 m away. If the bullet strikes 10 c below the center, what was the velocity of the bullet? (Ignore air friction.) a. 300 m/s b. 333 m/s c. 500 m/s d. 700 m/s e. 751 m/s 	r m
	 7. A quarterback takes the ball from the line of scrimmage, runs backward for 10 yards, then side parallel to the line of scrimmage for 15 yards. He then throws a 50-yard forward pass straight downfield perpendicular to the line of scrimmage. The receiver is tackled immediately. How fa football displaced from its original position? a. 43 yards b. 55 yards c. 63 yards d. 75 yards e. 81 yards 	

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	18.	Superguy is flying at treetop level near Paris when he sees the Eiffel Tower elevator start to fall (the cable snapped). His x-ray vision tells him Lois LaTour is inside. If Superguy is 1.00 km away from the tower, and the elevator falls from a height of 240 m, how long does Superguy have to save Lois, and what must be his average speed? a. 3.00 s, 333 m/s b. 5.00 s, 200 m/s c. 7.00 s, 143 m/s d. 9.00 s, 111 m/s e. 10.0 s, 96.0 m/s
	19.	A baseball leaves the bat with a speed of 44.0 m/s and an angle of 30.0° above the horizontal. A 5.0-m-high fence is located at a horizontal distance of 132 m from the point where the ball is struck. Assuming the ball leaves the bat 1.0 m above ground level, by how much does the ball clear the fence a. 4.4 m b. 8.8 m c. 13.4 m d. 17.9 m e. 18.4 m
	20.	A fireman, 50.0 m away from a burning building, directs a stream of water from a fire hose at an angle of 30.0° above the horizontal. If the initial speed of the stream is 40.0 m/s, at what height will the stream of water strike the building? a. 9.60 m b. 13.4 m c. 18.7 m d. 22.4 m e. 24.3 m
	21.	Two projectiles are launched at 100 m/s, the angle of elevation for the first being 30° and for the second 60°. Which of the following statements is false? a. Both projectiles have the same acceleration while in flight. b. The second projectile has the lower speed at maximum altitude. c. Both projectiles have the same range. d. All of the above statements are false. e. Both projectiles have the same initial speed
	22.	
	23.	

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- 24. Plane A is flying at 400 mph in the northeast direction relative to the earth. Plane B is flying at 500 mph in the north direction relative to the earth. What is the direction of motion of Plane B as observed from Plane A?
 - a. 52.5° N of E
 - b. 52.5° N of W
 - c. 37.5° N of W
 - d. 36.9° N of W
 - e. 37.5° N of E

Web review - Ch 3 motion in two dimensions practice test Answer Section

MULTIPLE CHOICE

- 1. B
- 2. A
- 3. B
- 4. B
- 5. C
- 6. D
- 7. C
- 8. B
- 9. D
- 10. A
- 11. C
- 12. D
- 13. D
- 14. B
- 15. A
- 16. D
- 17. A
- 18. C
- 19. C
- 20. C
- 21. D
- 22. B
- 23. C 24. C