

Quizizz

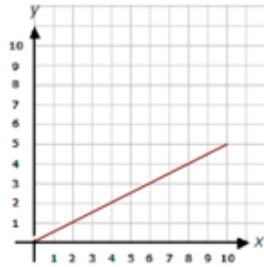
physics G10 ADEK velocity and acceleration

Name : _____

Class : _____

Date : _____

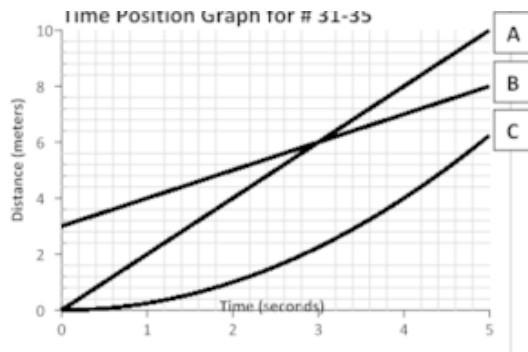
1. find the average velocity from the graph



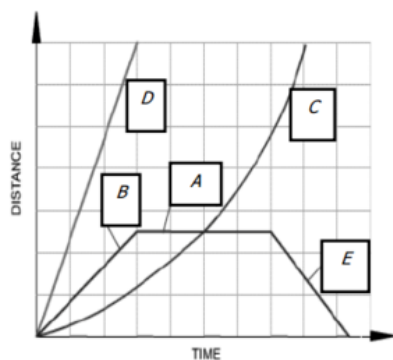
Created by Point X

☐ a) 2☐ b) 0.5☐ c) 2.5☐ d) 5

2. Which runner won the race?

☐ a) A☐ b) B☐ c) C

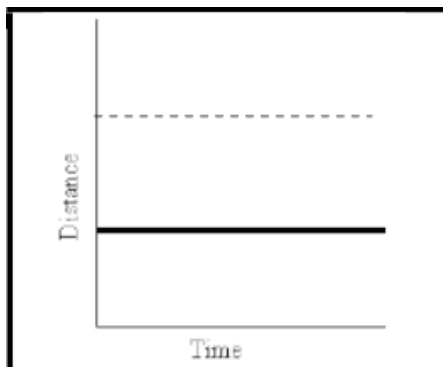
3. What is happening at E?



- ☐ a) Stationary
- ☐ c) Fast steady speed; moving away from the starting position

- ☐ b) Accelerating
- ☐ d) Steady speed; returning to start position

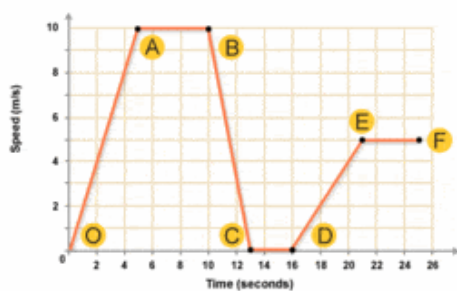
4. What does this graph represent?



- ☐ a) Constant speed
- ☐ c) Not moving

- ☐ b) Acceleration

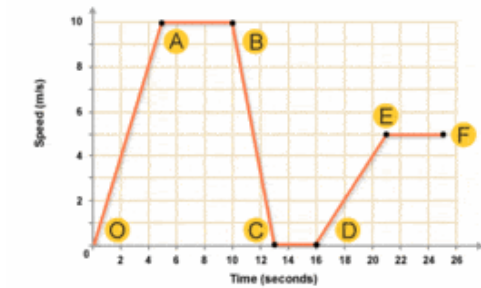
5. What is happening in this graph from point A to B?



- ☐ a) The object is accelerating.
- ☐ c) The object is decelerating.

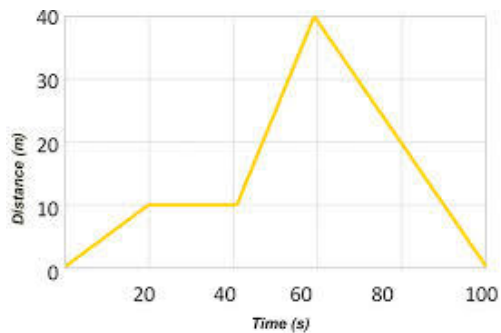
- ☐ b) The object is not moving.
- ☐ d) The object is moving at a constant speed.

6. What is happening in this graph from point B to C?



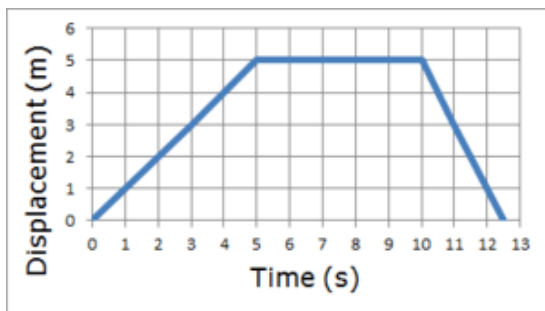
- ☐ a) The object is going down a hill.
- ☐ b) The object is returning to its starting location.
- ☐ c) The object is slowing down.
- ☐ d) The object is staying still.

7. At 60 seconds, how far had this object traveled?



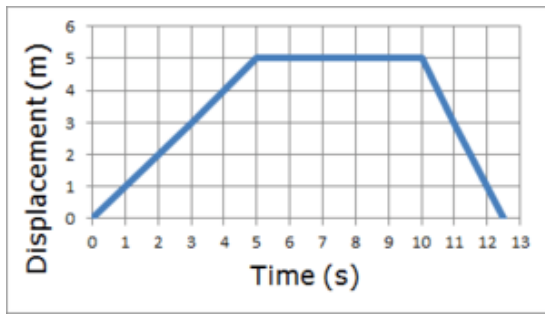
- ☐ a) 0 m
- ☐ b) 10 m
- ☐ c) 20 m
- ☐ d) 40 m

8. What is the average speed of the person during the first 5 seconds?



- ☐ a) 0 m/s
- ☐ b) 1 m/s
- ☐ c) 3 m/s
- ☐ d) 6 m/s

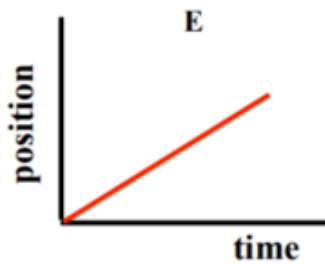
9. According to the graph how **far** does the person travel in the first 5 seconds?



- ☐ a) 2 m
 ☐ b) 10 m
- ☐ c) 0 m
 ☐ d) 5 m
10. A runner races in the 100 meter dash. It takes her 10 seconds to finish. What is her average speed?

- ☐ a) 10 m/s
 ☐ b) 1000 m/s
- ☐ c) 100 seconds
 ☐ d) 10 seconds

11. The slope of this position vs time graph is?



- ☐ a) Constant
 ☐ b) Increasing
- ☐ c) Decreasing
 ☐ d) 0

12. Which of the following is a unit for acceleration?

- ☐ a) km/s
 ☐ b) m/s²
- ☐ c) mi/hr
 ☐ d) ft

13. Acceleration is a change in _____.

- ☐ a) direction
 ☐ b) speed
- ☐ c) velocity
 ☐ d) distance

14. A negative acceleration means that your object is _____.

- ☐ a) Going to the origin
 ☐ b) running for forward
- ☐ c) speeding up
 ☐ d) slowing down

15. Velocity is a _____ quantity.

☐

a) scalar

☐

b) vector

16. What is the velocity of a car that traveled 32 m in 2 seconds?

☐

a) 64 m/s

☐

b) 34 m/s

☐

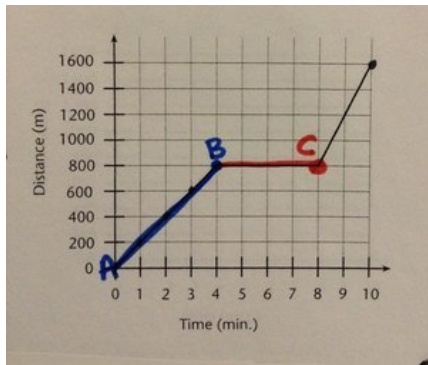
c) 16 m/s

☐

d) 0.0625 m/s

17. LT4: The graph shows Ashley riding her bike to Majed's house.

What was occurring from point B to point C?

☐

a) She was increasing her speed.

☐

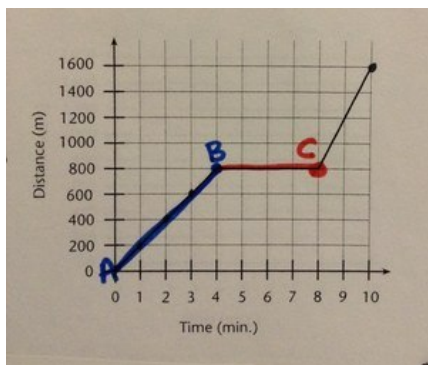
b) She stopped for 4 minutes

☐

c) She was decreasing in speed

18. LT4: The graph shows Ashley riding her bike to Maria's house.

What is occurring from point A to point B?

☐

a) they are traveling at a constant speed

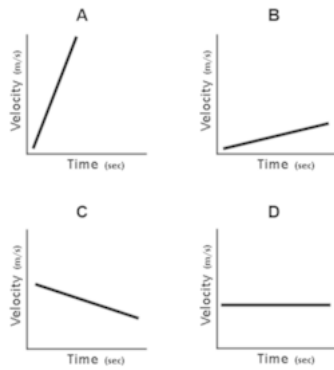
☐

b) they are decreasing in speed

☐

c) they stopped to take a break

19. Which graph represents zero acceleration (constant velocity)?



☐ a) A

☐ b) B

☐ c) C

☐ d) D

20. Which of the following is a unit for acceleration?

☐ a) km/s

☐ b) m/s^2

☐ c) mi/hr

☐ d) ft

21. _____ is the unit for speed.

☐ a) m/s

☐ b) km/h

☐ c) kg

☐ d) hr

22. The velocity at any instant of time is known as

☐ a) average velocity

☐ b) velocity

☐ c) given velocity

☐ d) instantaneous velocity

23. If a total distance of 750 km is covered in a time interval of 25 s, the average velocity is _____?

☐ a) 3,974 km/s

☐ b) 3 km/s

☐ c) 30 km/s

☐ d) 30 m/s

24. If a person walked at 2 m/s for 12 s he/she would travel a distance of _____.

☐ a) 24 m

☐ b) 6 m

☐ c) 4 m

☐ d) none of the answers

25. The difference between speed and velocity is

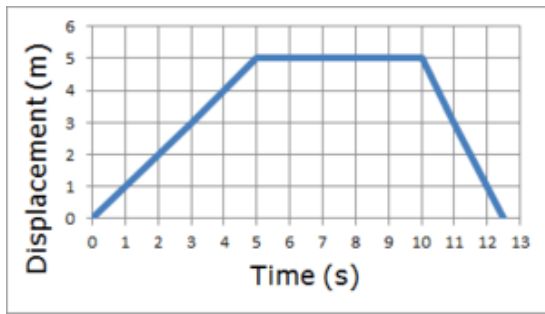
☐ a) speed has magnitude and direction

☐ b) velocity has magnitude and direction

☐ c) speed has direction

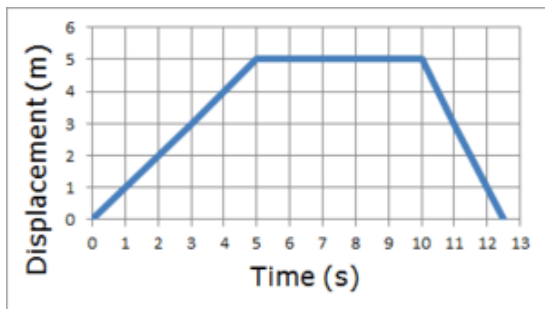
☐ d) velocity has magnitude

26. According to the graph how far does the person travel in the first 5 seconds?



- ☐ a) 2 m ☐ b) 10 m
- ☐ c) 0 m ☐ d) 5 m

27. What is the person doing from 5 seconds to 10 seconds?



- ☐ a) Walking ☐ b) Running
- ☐ c) Standing Still ☐ d) Walking Fast

28. A runner races in the 100 meter dash. It takes her 10 seconds to finish. What is her average speed?



- ☐ a) 10 m/s ☐ b) 1000 m/s
- ☐ c) 100 seconds ☐ d) 10 seconds

29. A horse accelerates from a velocity of 0m/s to 20 m/s in 3 seconds. What is the acceleration of the horse?

- ☐ a) 60 m/s² ☐ b) 6.67 m/s²
- ☐ c) 0.15 m/s² ☐ d) 30 m/s²

30. A car begins at position $x = 10$ and travels to position $x = -30$. What is the car's displacement?

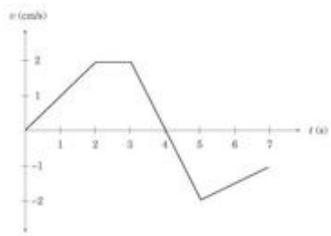
☐ a) -40

☐ b) 40

☐ c) 10

☐ d) 30

31. What is the acceleration of the object during the first 2 seconds?


☐ a) 0.5 m/s^2
☐ b) 1.0 m/s^2
☐ c) 1.5 m/s^2
☐ d) 2.0 m/s^2

32. A car accelerates from a standstill to 70 m/s in 10 seconds. What is the acceleration?

☐ a) 0.7 m/s^2
☐ b) 7 m/s^2
☐ c) 14 m/s^2
☐ d) none of the above

33. The red line shows...

☐ a) A stationary object.

☐ b) An object with constant velocity.

34. Which lines show a change in direction?

☐ a) Green only

☐ b) Blue and red

☐ c) orange and pink

☐ d) green and pink

35. How long did it take this object to travel 10 m ?

☐ a) 0 s

☐ b) 10 s

☐ c) 15 s

☐ d) 20 s

36. The speedometer in your car measures

☐ a) average speed

☐ b) instantaneous speed

☐ c) acceleration

☐ d) displacement

37. It an object travels 50 meters East in 10 seconds, its velocity will be
- ☐ a) 0.5 m/s ☐ b) 0.2 m/s
- ☐ c) 2 m/s ☐ d) 5 m/s
38. What is the object doing from point B to C?
- ☐ a) moving forward ☐ b) not moving
- ☐ c) moving backward
39. What is the object doing from point E to F?
- ☐ a) moving forward ☐ b) not moving
- ☐ c) moving backward
40. What is the total distance traveled?
- ☐ a) 30 m ☐ b) 50 m
- ☐ c) 20 m ☐ d) 80 m
41. Total distance divided by total time is
- ☐ a) average speed ☐ b) constant speed
- ☐ c) instantaneous speed ☐ d) acceleration
42. Total distance divided by total time is
- ☐ a) average speed ☐ b) constant speed
- ☐ c) instantaneous speed ☐ d) acceleration
43. Shona cycles at an average speed of 8km/h. How far has she travelled if she cycles for 4 hours?
- ☐ a) 55km ☐ b) 32km
- ☐ c) 43km ☐ d) 32miles

44. What is the acceleration?

Initial velocity = 20m

Final velocity = 26m

Time = 6s

- | | |
|---|--|
| <input type="checkbox"/> a) 1m/s^2 | <input type="checkbox"/> b) -1m/s^2 |
| <input type="checkbox"/> c) 7.2m/s^2 | <input type="checkbox"/> d) 2m/s^2 |

45. Which of the following is a unit for acceleration?

- | | |
|-----------------------------------|--|
| <input type="checkbox"/> a) km/s | <input type="checkbox"/> b) m/s^2 |
| <input type="checkbox"/> c) mi/hr | |

46. What is happening to the velocity?

- | | |
|--|--|
| <input type="checkbox"/> a) Constant | <input type="checkbox"/> b) Decreasing |
| <input type="checkbox"/> c) Increasing | |

47. A boat increases its velocity from 16 m/s to 96 m/s in 5 seconds. Find its acceleration

- | | |
|---|---|
| <input type="checkbox"/> a) 10 m/s^2 | <input type="checkbox"/> b) 16 m/s^2 |
| <input type="checkbox"/> c) 14 m/s^2 | |

48. A boat increases its speed from 16 m/s to 96 m/s in 5 seconds.

- | | |
|---|---|
| <input type="checkbox"/> a) 10 m/s^2 | <input type="checkbox"/> b) 16 m/s^2 |
| <input type="checkbox"/> c) 14 m/s^2 | |

49. The picture of the position vs. time graph shows an object that is...

- | | |
|--|--|
| <input type="checkbox"/> a) accelerating/speeding up | <input type="checkbox"/> b) moving at a constant speed |
| <input type="checkbox"/> c) not moving | <input type="checkbox"/> d) accelerating/slowng down. |

50. Which graph shows the object standing still?

- | | |
|-------------------------------|-------------------------------|
| <input type="checkbox"/> a) A | <input type="checkbox"/> b) B |
| <input type="checkbox"/> c) C | <input type="checkbox"/> d) D |

51. A roller coaster accelerates from an initial velocity of 6.0 m/s to a final velocity of 70 m/s over 4 seconds.

What's the acceleration?

- | | |
|---|---|
| <input type="checkbox"/> a) 24 m/s ² | <input type="checkbox"/> b) 18 m/s ² |
| <input type="checkbox"/> c) 16 m/s ² | <input type="checkbox"/> d) 16 m/s |

52. What is the net force?

- | | |
|--|---------------------------------------|
| <input type="checkbox"/> a) 17 N Right | <input type="checkbox"/> b) 3 N Right |
| <input type="checkbox"/> c) 3 N Left | <input type="checkbox"/> d) 17 N Left |

53. A car begins at position $x_i = -6$ and travels to position $x_f = +30$. What is the car's displacement?

- | | |
|---------------------------------|---------------------------------|
| <input type="checkbox"/> a) 36 | <input type="checkbox"/> b) 24 |
| <input type="checkbox"/> c) -36 | <input type="checkbox"/> d) -24 |

54. find the displacement from $t=0$ to $t=10$ s using the graph

- | | |
|-----------------------------------|-----------------------------------|
| <input type="checkbox"/> a) 25 m | <input type="checkbox"/> b) 50 m |
| <input type="checkbox"/> c) 250 m | <input type="checkbox"/> d) 500 m |

55. Which would hit the ground first if dropped from the same height in a vacuum—a feather or a metal bolt?

- | | |
|---|--|
| <input type="checkbox"/> a) the feather | <input type="checkbox"/> b) the metal bolt |
| <input type="checkbox"/> c) They would hit the ground at the same time. | <input type="checkbox"/> d) They would be suspended in a vacuum. |

56. A ball is thrown upwards and caught when it comes back down. In the absence of air resistance, the speed of the ball when caught would be

- | | |
|---|---|
| <input type="checkbox"/> a) less than the speed it had when thrown upwards. | <input type="checkbox"/> b) more than the speed it had when thrown upwards. |
| <input type="checkbox"/> c) the same as the speed it had when thrown upwards. | |

57. Objects that are falling toward Earth in free fall move

- | | |
|---|---|
| <input type="checkbox"/> a) faster and faster. | <input type="checkbox"/> b) slower and slower. |
| <input type="checkbox"/> c) at a constant velocity. | <input type="checkbox"/> d) slower then faster. |

58. A free falling objects falls under the influence of

- | | |
|---|--|
| <input type="checkbox"/> a) force of air | <input type="checkbox"/> b) force of gravity |
| <input type="checkbox"/> c) force of resistance | <input type="checkbox"/> d) force of |

59. If a free falling object takes 10s to travel upward, what is the total time the object is in the air?

- | | |
|---|--|
| <input type="checkbox"/> a) 0s because of symmetry and $T_{up} = +10s$, so $T_{down} = -10s$.
Which means that $T_{total} = 0s$. | <input type="checkbox"/> b) 20s because of symmetry and $T_{up} = 10s$, so $T_{down} = 10s$.
Which means that $T_{total} = 20s$. |
| <input type="checkbox"/> c) Greater than 10s, but less than 20s because the object would fall faster than it rose because of gravity. Without more information, you cannot calculate this number. | <input type="checkbox"/> d) Less than 10s because the object begins falling back before the 10s and it falls faster than it rises. |

60. Free fall is

- | | |
|---|--|
| <input type="checkbox"/> a) Only when an object travels downward, or is falling | <input type="checkbox"/> b) Changes based on which object is in free fall. A heavier object will have a greater free fall than a lighter one |
| <input type="checkbox"/> c) When the object is only experiencing the force of gravity | <input type="checkbox"/> d) When objects have zero forces acting upon them |

61. A free falling objects falls under the influence of

- | | |
|---|--|
| <input type="checkbox"/> a) force of air | <input type="checkbox"/> b) force of gravity |
| <input type="checkbox"/> c) force of resistance | <input type="checkbox"/> d) force of |

62. Do free falling objects move at constant velocity or do they accelerate?

- | | |
|--|--|
| <input type="checkbox"/> a) Falling objects accelerate at -9.8 m/s^2 | <input type="checkbox"/> b) Falling object move at constant velocity |
| <input type="checkbox"/> c) Falling objects accelerate at 100 m/s^2 | <input type="checkbox"/> d) It depends on the mass: heavy objects accelerate, light objects do not |

63. What values are always known for a free falling object?

- | | |
|---|--|
| <input type="checkbox"/> a) $v_i = 0 \text{ m/s}$
$a = -9.8 \text{ m/s}^2$ | <input type="checkbox"/> b) $v_i = -9.8 \text{ m/s}$
$a = -9.8 \text{ m/s}^2$ |
| <input type="checkbox"/> c) $v_i = -9.8 \text{ m/s}$
$a = 0 \text{ m/s}^2$ | <input type="checkbox"/> d) $d = -9.8 \text{ m}$
$v_i = 0 \text{ m/s}$ |

64. A free falling object falls for 2.4 s. What is its displacement?
- ☐ a) -28.2 m ☐ b) -11.76 m
- ☐ c) -56.45 m ☐ d) -9.8 m
65. A free falling object falls for 1.6 s. What is the final velocity?
- ☐ a) -15.68 m/s ☐ b) - 9.8 m/s
- ☐ c) - 6.125 m/s ☐ d) - 25.088 m/s
66. The acceleration due to gravity near the surface of Earth is equal to
- ☐ a) 9.8 m/s ☐ b) 9.8 kg x m/s
- ☐ c) 9.8 N ☐ d) 9.8 m/s²
67. How fast will a brick be going after it falls for 2.5 seconds?
- ☐ a) 24.5 ☐ b) 28.5
- ☐ c) 19.8 ☐ d) 9.8
68. An apple falls out of a tree and takes 1.75 seconds to strike the ground. How high was the apple from the ground?
- ☐ a) 25.00 ☐ b) 20.00
- ☐ c) 15.00 ☐ d) 10.00
69. If you throw a baseball straight up, what is its **velocity** at the highest point?
- ☐ a) 9.8 m/s² ☐ b) 9.8 m/s
- ☐ c) 4.5 m/s² ☐ d) 0 m/s
70. Which would fall with greater acceleration in a vacuum—a leaf or a stone?
- ☐ a) the leaf ☐ b) the stone
- ☐ c) They would accelerate at the same rate. ☐ d) It is difficult to determine without more information.
71. The more mass an object has, the faster it will fall.
- ☐ a) True ☐ b) False

72. Mass has units of ____

☐

a) kg

☐

b) m

☐

c) N

☐

d) m/s

73. What is the acceleration of an object in free fall?

☐

a) 9.8 m/s^2

☐

b) -9.8 m/s^2

☐

c) It depends on how much the object weighs

☐

d) -9.8 m/s

74. At what time are runner A and runner B at the same position?

☐

a) 45 s

☐

b) 10 s

☐

c) 180 s

☐

d) 0 s

75. What is the average velocity of an object that moves from 6.5 cm to 3.7 cm relative to the origin in 2.3 s?

$v = ?$

☐

a) -1.2 m/s

☐

b) 1.2 m/s

☐

c) 18.65 m/s

☐

d) 4.4 m/s

76. What is its average velocity?

☐

a) 6 m/s

☐

b) 1.5 m/s

☐

c) 0.66 m/s

☐

d) 6.6 m/s

77. The figure shows a motorcyclist traveling east along a straight road. After passing point B, the cyclist continues to travel at an average velocity of 12 m/s east and arrives at point C 3.0 s later. What is the position of point C?

☐

a) $x = 82 \text{ m west}$

☐

b) $x = 82 \text{ m east}$

☐

c) $x = 36 \text{ m east}$

☐

d) $x = 552 \text{ m east}$

78. which is the fastest?

☐

a) Dolly

☐

b) Bessie

☐

c) Mooinda

☐

d) Elsie

79. You ride a bike at a constant velocity of 4.0 m/s for 5.0 s. How far do you travel?

☐

a) 20 m

☐

b) 0.8 m

☐

c) 1,25 m

80. A car starts at rest and accelerates at 3.5 m/s^2 after a traffic light turns green. How far will it have gone when it is traveling at 25 m/s?

☐

a) +89 m

☐

b) +3.57 m

☐

c) -89 m

☐

d) 178.57 m

81. a biker was moving at 5m/s ,he accelerated at constant rate of 3m/s^2 for 20 s . What is his final velocity

☐

a) 56 m/s

☐

b) 65 m/s

☐

c) 60 m/s

☐

d) 400 m/s

82. Determine the motion of the car.

☐

a) at rest

☐

b) moving at constant speed

☐

c) speeding up

☐

d) slowing down

83. A golf ball accelerates off a tee at 15m/s^2 , changing its velocity from 0m/s to 50 m/s down the fairway. How long did it take the golf ball to accelerate?

☐

a) 750 seconds

☐

b) 35 seconds

☐

c) 0.3 seconds

☐

d) 3.3 seconds

84. What is the final velocity of a car that accelerates at a rate of 2 m/s^2 and starts at a velocity of 14 m/s for 5 seconds?

☐

a) 10 m/s

☐

b) 24 m/s

☐

c) 30 m/s

☐

d) 18 m/s

85. A train that is moving at 25 m/s slows down at a rate of 3 m/s^2 in 4 seconds. How far does it travel while braking?

☐ a) 124 m ☐ b) 76 m
☐ c) 106 m ☐ d) 94 m

86. An athlete jogs at a constant velocity, and then jogs back to his initial position with the same constant velocity. Which of the following graphs correctly shows the position of the athlete as function of time?

☐ a) ☐ b)
☐ c) ☐ d)

87. If a car is traveling forward at 15 m/s, how fast will it be going in 1.2 seconds if the acceleration is -10 m/s^2 ?

☐ a) 27 m/s ☐ b) 3 m/s
☐ c) -27 m/s ☐ d) -3 m/s

88. A roller coaster accelerates from an initial speed of 6.0 m/s to a final speed of 70 m/s over 4 seconds. What's the acceleration?

☐ a) 24 m/s^2 ☐ b) 18 m/s^2
☐ c) 16 m/s^2 ☐ d) 16 m/s

89. An object with an initial velocity of 3.50 m/s moves east along a straight and level path. The object then undergoes a constant acceleration of 1.80 m/s^2 east for a period of 5.00 s. How far does the object move while it is accelerating?

☐ a) 6.30 m ☐ b) 17.5 m
☐ c) 27.2 m ☐ d) 40.0 m

90. A rocket is fired upward with an initial velocity of 35 m/s. Find the rocket's maximum altitude.

☐ a) 63 m ☐ b) 62.5 m
☐ c) 1.8 m ☐ d) It will never leave the earth.

91. A ball is dropped from a height of 100 m. How long will it take to strike the ground?

☐ a) 4.5 seconds ☐ b) 5 seconds
☐ c) 10 seconds ☐ d) IDK

92. At which of the following times is the object at rest?

- | | |
|----------------------------------|---|
| <input type="checkbox"/> a) 5 s | <input type="checkbox"/> b) 10 s |
| <input type="checkbox"/> c) 15 s | <input type="checkbox"/> d) the object is never at rest |

93. A baseball is thrown straight up into the air - what is the velocity at its tallest point?

- | | |
|-----------------------------------|---|
| <input type="checkbox"/> a) - m/s | <input type="checkbox"/> b) + m/s |
| <input type="checkbox"/> c) 0 m/s | <input type="checkbox"/> d) Need more information |

94. A cart accelerates at 0.50 m/s^2 . If it accelerates for 3.0 s to a velocity of 1.5 m/s, what is its initial velocity?

- | | |
|-------------------------------------|--------------------------------------|
| <input type="checkbox"/> a) 0.0 m/s | <input type="checkbox"/> b) 1.5 m/s |
| <input type="checkbox"/> c) 3.0 m/s | <input type="checkbox"/> d) -3.0 m/s |

95. A baseball is thrown straight up into the air at 6 m/s. How long will it take to reach its highest point?

- | | |
|-----------------------------------|------------------------------------|
| <input type="checkbox"/> a) 0.6 s | <input type="checkbox"/> b) -0.6 s |
| <input type="checkbox"/> c) 2 s | <input type="checkbox"/> d) -2 s |

96. A car going 98 km/hr accelerates at a rate of -22 m/s^2 for 1.2 s. What is its final velocity?

- | | |
|------------------------------------|-------------------------------------|
| <input type="checkbox"/> a) 1 m/s | <input type="checkbox"/> b) 72 m/s |
| <input type="checkbox"/> c) -1 m/s | <input type="checkbox"/> d) -72 m/s |

97. A drag racer accelerated from 0 m/s to 200 m/s in 5 s. What was the acceleration?

- | | |
|---|--|
| <input type="checkbox"/> a) 0 m/s | <input type="checkbox"/> b) 40 m/s^2 |
| <input type="checkbox"/> c) -40 m/s^2 | <input type="checkbox"/> d) 40 m/s |

98. A car accelerates from a standstill to 70 m/s in 10 seconds. What is the acceleration?

- | | |
|---|---|
| <input type="checkbox"/> a) 0.7 m/s^2 | <input type="checkbox"/> b) 7 m/s^2 |
| <input type="checkbox"/> c) 14 m/s^2 | <input type="checkbox"/> d) none of the above |

99. Determine the motion of the car ?

- | | |
|---|---|
| <input type="checkbox"/> a) Speeding up | <input type="checkbox"/> b) slowing down |
| <input type="checkbox"/> c) at rest | <input type="checkbox"/> d) constant velocity |

100. The slope of a velocity vs time graph is...

☐

a) displacement

☐

b) velocity

☐

c) acceleration

Answer Key

- | | | | |
|-------|-------|-------|--------|
| 1. b | 26. d | 51. c | 76. c |
| 2. a | 27. c | 52. b | 77. b |
| 3. d | 28. a | 53. a | 78. d |
| 4. c | 29. b | 54. a | 79. a |
| 5. d | 30. a | 55. c | 80. a |
| 6. c | 31. b | 56. c | 81. b |
| 7. d | 32. b | 57. a | 82. c |
| 8. b | 33. b | 58. b | 83. d |
| 9. d | 34. d | 59. b | 84. b |
| 10. a | 35. d | 60. c | 85. b |
| 11. a | 36. b | 61. b | 86. a |
| 12. b | 37. d | 62. a | 87. b |
| 13. c | 38. b | 63. a | 88. c |
| 14. d | 39. c | 64. a | 89. d |
| 15. b | 40. d | 65. a | 90. a |
| 16. c | 41. a | 66. d | 91. b |
| 17. b | 42. a | 67. a | 92. b |
| 18. a | 43. b | 68. c | 93. c |
| 19. d | 44. a | 69. d | 94. a |
| 20. b | 45. b | 70. c | 95. a |
| 21. a | 46. c | 71. b | 96. a |
| 22. d | 47. b | 72. a | 97. b |
| 23. c | 48. b | 73. b | 98. b |
| 24. a | 49. a | 74. d | 99. b |
| 25. b | 50. b | 75. a | 100. c |