Physics Essentials Do Now

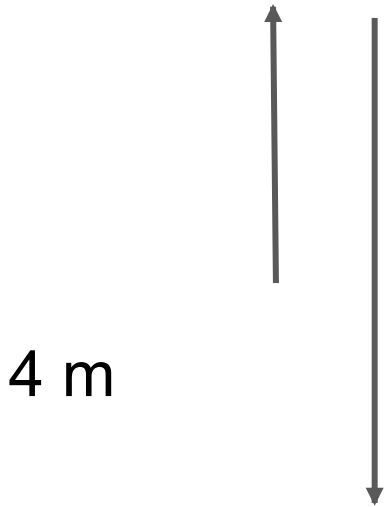
Are you ready for the test tomorrow? What are you still unsure of?

Today's activities

1. Select review questions
2. Test protocol
3. Kahoot! review

Distance & Displacement

Walks 2 meters north and 4 meters south

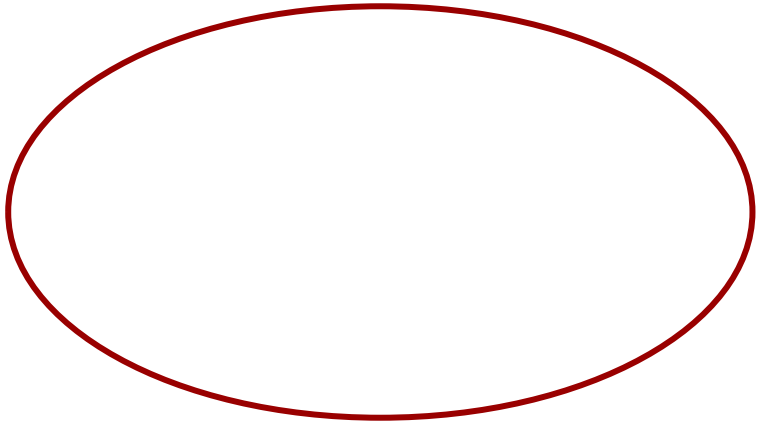


Distance = 2 + 4

Displacement = 2

Distance & Displacement

Runs 5 times around a 400m track

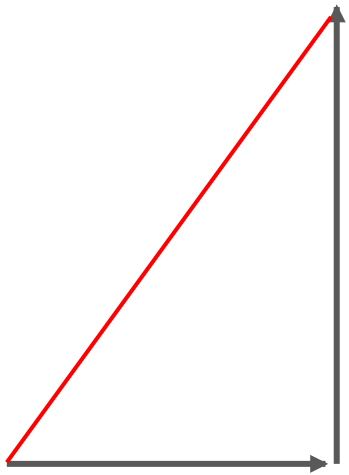


Distance = 5 x 400 m
= 2000 m

Displacement = 0

Distance & Displacement

Gallops 4 meters east and 7 meters north



4 m

Distance = 4 + 7= 11 m

Displacement =

7 m

$a^2 + b^2 = c^2$

$4^2 + 7^2 = c^2$

$16 + 49 = c^2$

$65 = c^2$

$\sqrt{65} = c$

$8.02 = c$

Speed & Velocity

Jason and Ziggy run at 8 miles per hour for 1.7 hours. How much distance did they travel?

Given: speed = 8 miles/hour
time = 1.7 hours

Looking for: distance

Equation: $d = s \cdot t$

Solve:
$d = s \cdot t$
$d = 8 \text{ miles/hour} \cdot 1.7 \text{ hours}$
$d = 13.6 \text{ miles}$

Answer: 13.6 miles

Speed & Velocity

Annie walks 2 miles to a museum and 2 miles back in 50 minutes. What is her speed? Velocity?

Given: distance = 2 + 2 = 4

displacement = 0 miles

time = 50 minutes

Looking for: speed, velocity

Equation: s = distance/time

Solve:

s = 4 miles/50 min

v = 0 miles/50 min

Answer:

s = 0.08 miles/min

v = 0 miles/min

Acceleration

A man accelerates from 5 to 25 m/s in 5 seconds. What is his acceleration?

Given: $V_i = 5$ m/s

$V_f = 25$ m/s

$t = 5$ s

Looking for: acceleration

Equation: $a = \frac{V_f - V_i}{t}$

Solve:

$a = \frac{25 \text{ m/s} - 5 \text{ m/s}}{5 \text{ s}}$

Answer: $a = 4 \text{ m/s}^2$

Acceleration

Eli accelerates from 40 m/s to rest in 10 seconds. What is his acceleration?

Given: Vi = 40 m/s

Vf = 0 m/s

t = 10 s

Looking for: acceleration

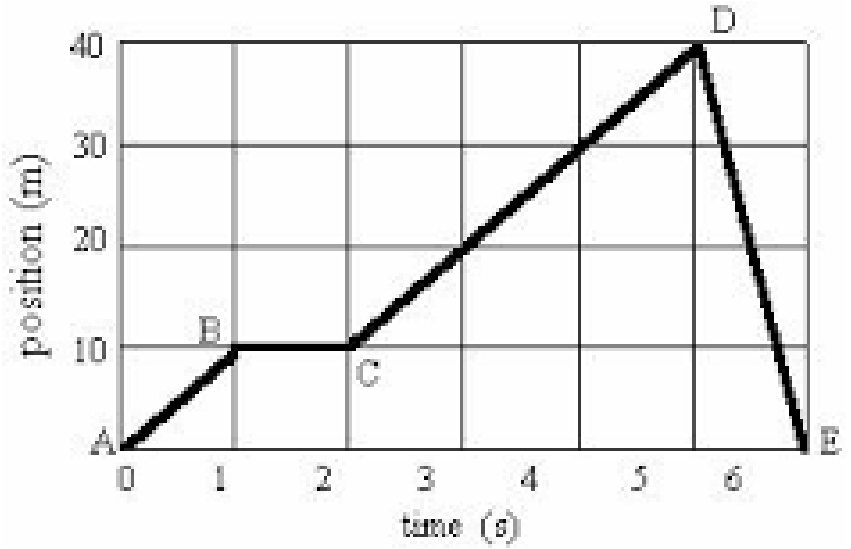
Equation: $a = \frac{Vf - Vi}{t}$

Solve:

$a = \frac{0 \text{ m/s} - 40 \text{ m/s}}{10 \text{ s}}$

Answer: $a = -4 \text{ m/s}^2$

Motion Graphs



When is the person moving away from the origin? A-D

Toward the origin? D-E

Not moving? B-C

Determine the velocity (slope = rise/run) for each segment of the graph. (A-B, B-C, C-D, D-E).

A-B = 10/1 = 10

B-C = 0/1 = 0

C-D = 30/3 = 10

D-E = -40/1 = -40

Test Protocol

1. Sit down and prepare to take the test immediately
   a. Everything put away except a pencil/pen and a calculator
   b. Yes, this includes phones
2. There is no talking or leaving your seat during the test
3. Do your own work, there is no penalty for guessing but there is one for cheating
4. Show your work. Multiple points are available for each question, don't lose them by failing to show how you solved the problem.
5. If you do not adhere to the above, or otherwise disrupt the class in any way, you will forfeit your test and be sent to the office.