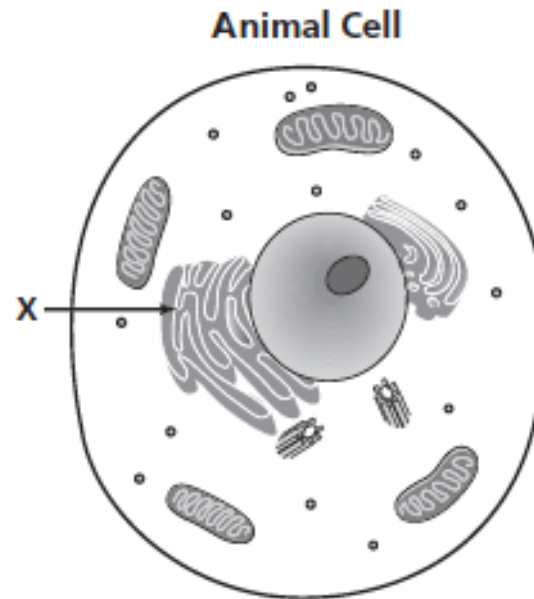


August 12, 2014

2

An animal cell is shown in the diagram below.



What organelle is identified by the X?

- F centriole
- G ribosome
- H Golgi apparatus
- J endoplasmic reticulum

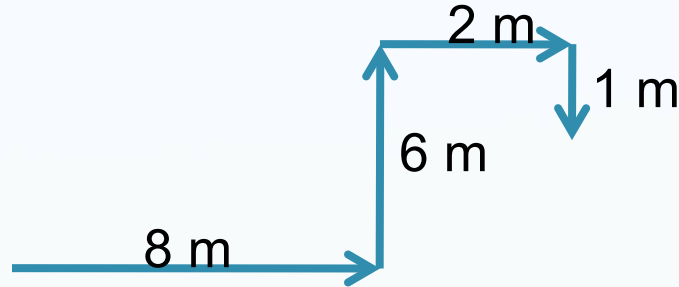
You must explain why your answer is correct.

Please write the page number in your book that supports your explanation.

Use the index of your book to help you.

Distance vs. Displacement

- To determine displacement draw a diagram of the path taken
 - Example: 8 m east, then 6m north, then 2 m east, then 1 m south



- Simplify the diagram to a right triangle



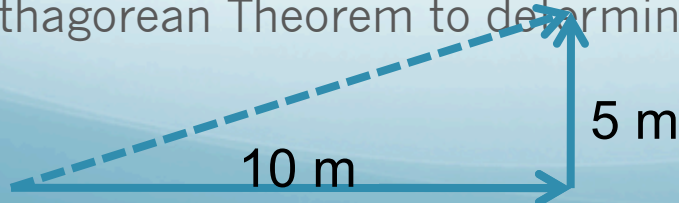
$$a^2 + b^2 = c^2$$

$$(10m)^2 + (5m)^2 = c^2$$

$$c = 11.2m$$

northeast

- Use Pythagorean Theorem to determine the displacement



Relative Motion

- Something that is in motion changes its position. The position of an object is described relative to another object which is not moving.
- https://www.youtube.com/watch?v=DXkmc2p_Zio
- What did the ball appear to do?
- If the vehicle had not been moving, what would have happened?
- Why did the ball's action occur?

Now, you try!

- You will be able to answer the following questions:
 - A bus goes 500km east from town A to town B in the morning and comes back halfway in the evening travelling west. What is the distance and

A high-speed train traveled at a rate of 120 kilometers per hour for 10 hours

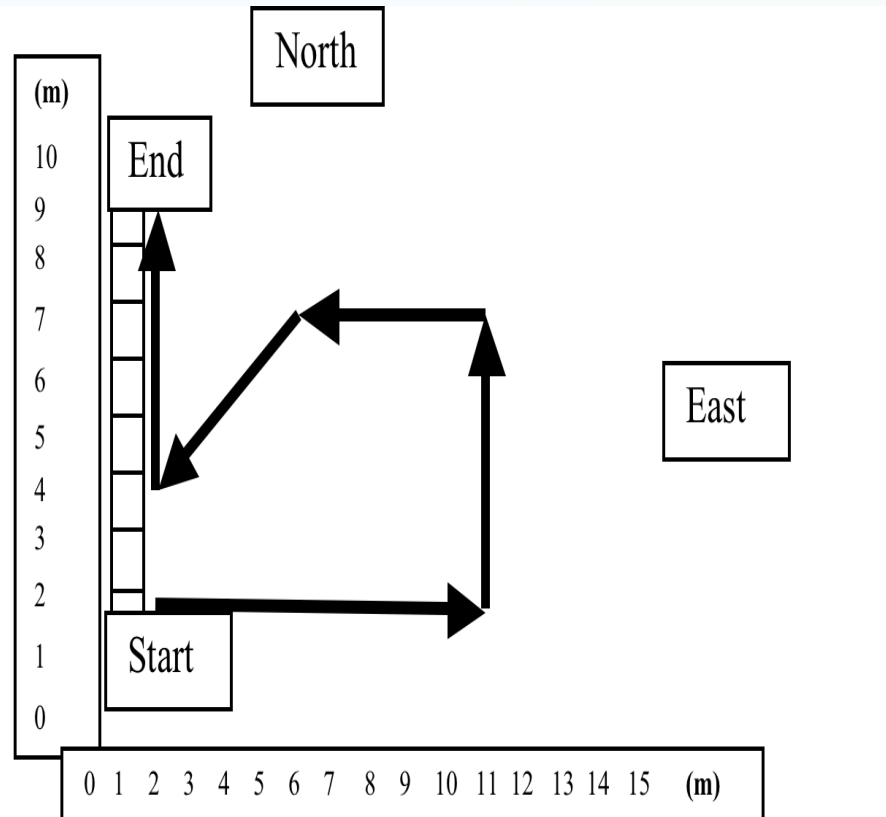
$$\text{Distance}(d) = \text{Rate}(r) \times \text{Time}(t)$$

What distance did the train travel?

- A** 12 kilometers
- B** 20 kilometers
- C** 110 kilometers
- D** 1,200 kilometers

Exit Slip

Write the
distance traveled
and
displacement.



*Don't forget! Vocabulary cards are due Wednesday. Quiz is Friday!

Chapter 13

Day 2

Distinguish between speed and velocity.

Identify and explain how Newton's laws of motion relate to the movement of objects.

What You Will Learn

- The difference between constant speed and average speed.
- How to calculate average speed.

On your white board...

- Write down one thing you learned yesterday.
- Share with your neighbor.

What mastery looks like...

A ball traveled 35 meters at a speed of 5 meters per second.

$$\text{Time} = \frac{\text{Distance}}{\text{speed}}$$

$$t = \frac{d}{s}$$

How long did it take the ball to travel the 35 meters?

- F** 7 seconds
- G** 30 seconds
- H** 40 seconds
- J** 175 seconds



$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

Speed

- When you are moving, your POSITION is changing.
- How quickly your POSITION changes depends on your speed.
- Speed is the distance traveled divided by the time needed to travel that distance.
- Question: If everyone travels the same distance, will the faster person have the longest or shortest time. Write your answer on your white board.

Video

- <https://www.youtube.com/watch?v=G8DNGh126oM>

Speed

- **Constant Speed:** Speed remains the same.
 - If you are in a car on cruise control, your speed is constant. It doesn't change.
- **Average Speed:** Another way to describe the motion of an object whose speed is changing is to give the average speed of the object.
 - The speed of a car changes as it moves through the streets of a city.
 - The speed of a car at one moment is known as its instantaneous speed. A speedometer shows instantaneous speed.

Average Speed Equation

$$\text{average speed (in m/s)} = \frac{\text{distance (in m)}}{\text{time (in s)}}$$

$$\bar{v} = \frac{d}{t}$$

Take out a clean sheet of paper...

**Do not tear it out!*

- <http://sciencespot.net/Media/speedmach.pdf>
- Complete 1-5.
- We will go over the correct answers.

Now, you try!

A ball traveled 35 meters at a speed of 5 meters per second.

$$\text{Time} = \frac{\text{Distance}}{\text{speed}}$$

$$t = \frac{d}{s}$$

How long did it take the ball to travel the 35 meters?

- F** 7 seconds
- G** 30 seconds
- H** 40 seconds
- J** 175 seconds

Exit Slip

- On a clean sheet of paper, headed correctly, complete *Applying Math* in your book. It's on page _____.
- *Don't forget that vocabulary cards are due tomorrow!