Name _____

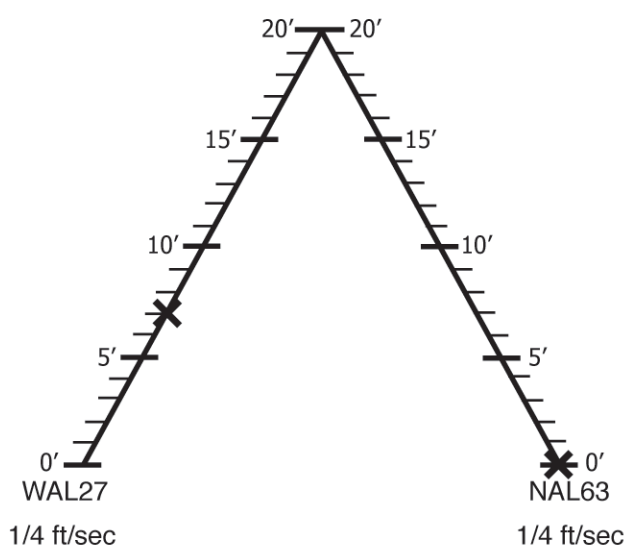
Answers

Student Assessment D

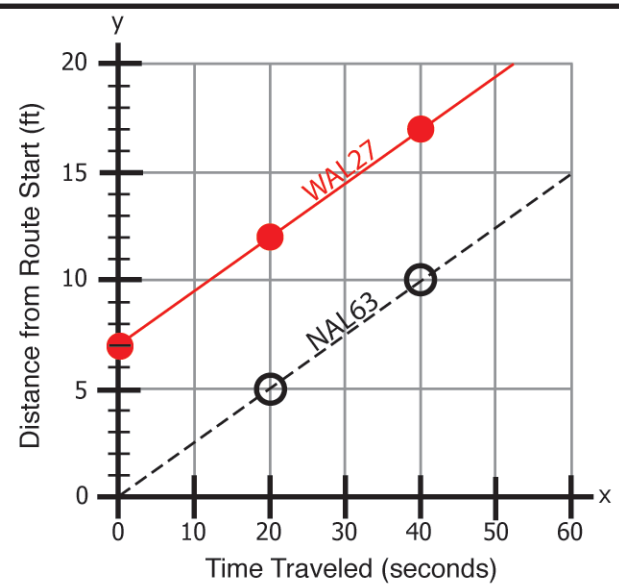
Analyzing Headstart: Two Planes Flying at the Same Speed

1. Use the information given in the Jet Route Panel to do the problem below. You do ***not*** need to use the simulator.

Jet Route Panel



Graph Panel



Equation Panel

y = m x + b

WAL27

y = 1/4 x + **7**

NAL63

y = 1/4 x + **0**

Jet Route Panel: The starting positions are shown.

(a) Are the planes flying at the same speed? (Yes) No

(b) What is the WAL27 starting position? 7 ft

(c) What is the NAL63 starting position? 0 ft

Graph Panel: The NAL63 line is shown.

(d) Plot points (●) on the graph to mark the **WAL27** position at 0 seconds, at 20 seconds, and at 40 seconds.

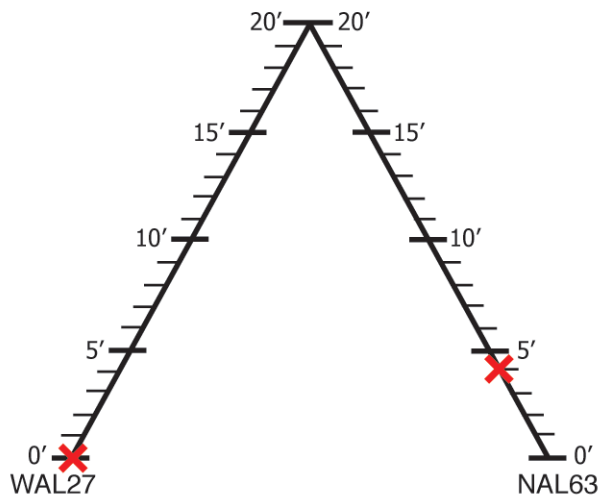
(e) Connect the points to draw the WAL27 line.

Equation Panel:

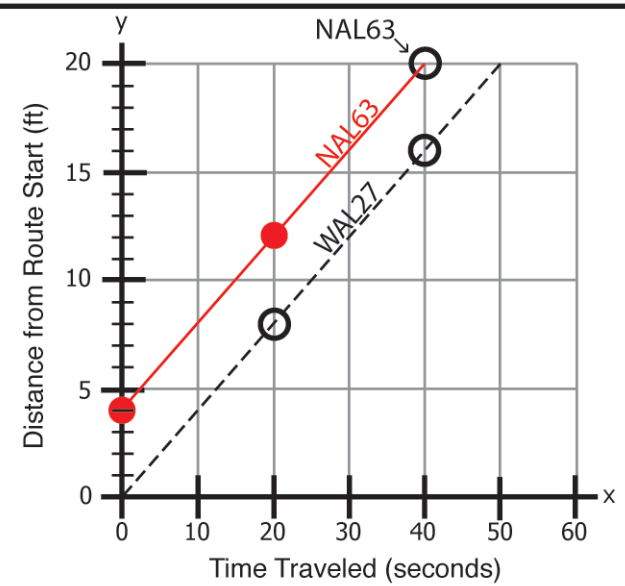
(f) Fill in the missing value in the WAL27 equation.

2. Use the information given in the panels to do the problem below. You do ***not*** need to use the simulator.

Jet Route Panel



Graph Panel



- Plane speeds are the **same**.
- One plane has a **headstart**.

In the **Graph Panel**:

(a) Which plane has a headstart? WAL27 NAL63

(b) Plot one more point (●) for the NAL63 line. *<< Note: Two more points have been plotted. >>*

(c) Connect the two points to draw the NAL63 line.

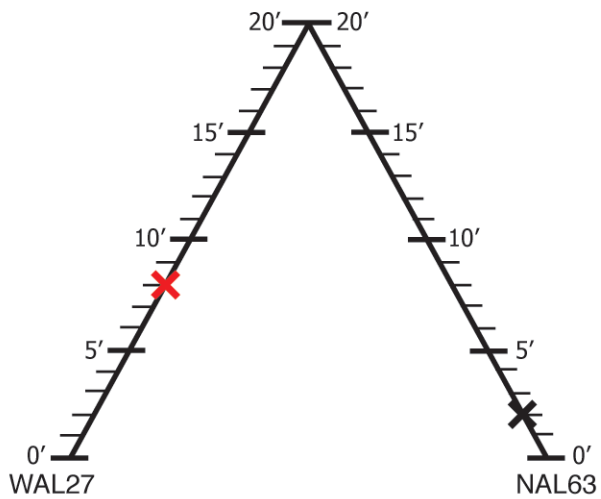
In the **Jet Route Panel**:

(d) Place an ✕ at the WAL27 starting position.

(e) Place an ✕ at the NAL 63 starting position.

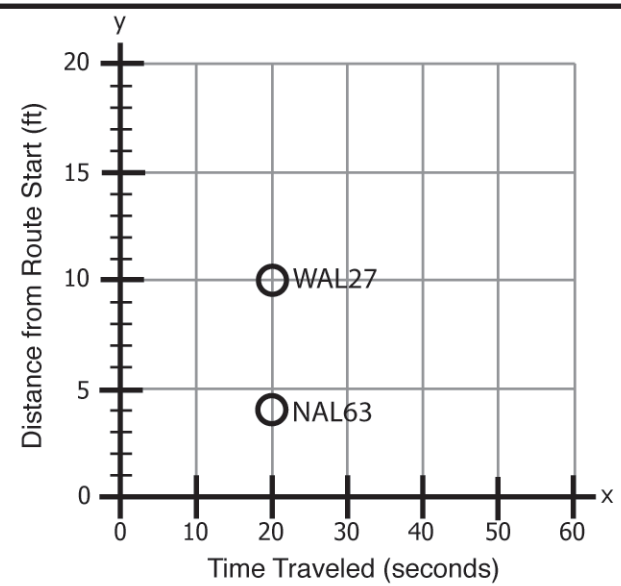
3. Use the information given in the panels to do the problem below. You do ***not*** need to use the simulator.

Jet Route Panel



- The NAL63 starting position is shown.
- Plane speeds are the **same**.
- One plane has a **headstart**.

Graph Panel



In the **Graph Panel**: One point is shown on the NAL63 line and one point is shown on the WAL27 line.

(a) At 20 seconds, what is the WAL27 lead? 6 ft

In the **Jet Route Panel**: The NAL63 starting position is 2 feet.

(b) Place an ✕ at the WAL27 starting position on its jet route.

(c) How did you know where to place the WAL27 ✕?

On the graph, WAL27 is 6 feet ahead of NAL63. Since the planes are flying at the same speed, WAL27 must have had a 6-foot headstart. Since the NAL63 starting position is 2 feet, the WAL27 starting position is 8 feet. (2 feet + 6 feet = 8 feet)