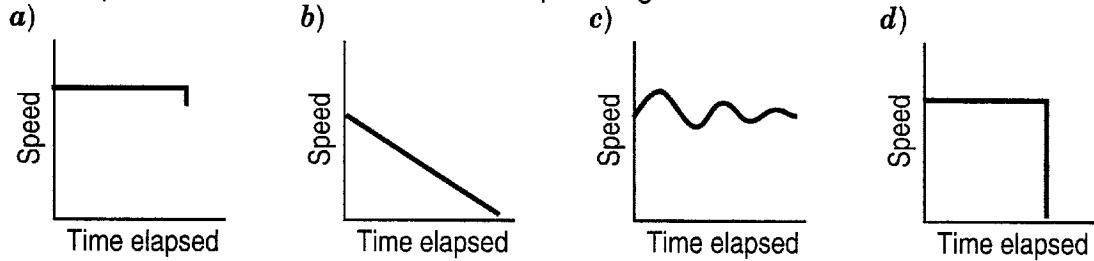


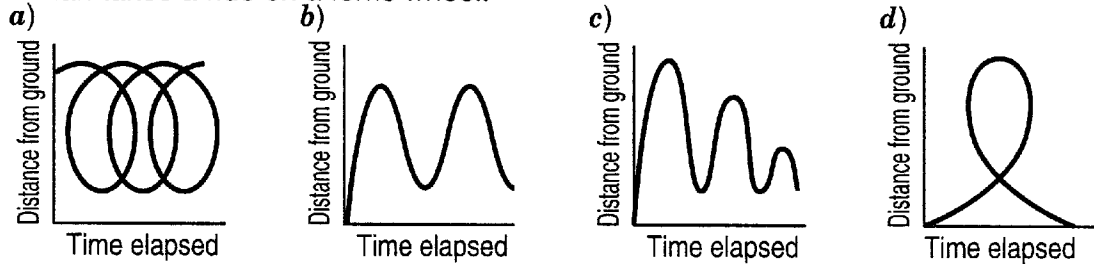
Identifying Graphs Lab

Indicate which graph matches the statement.

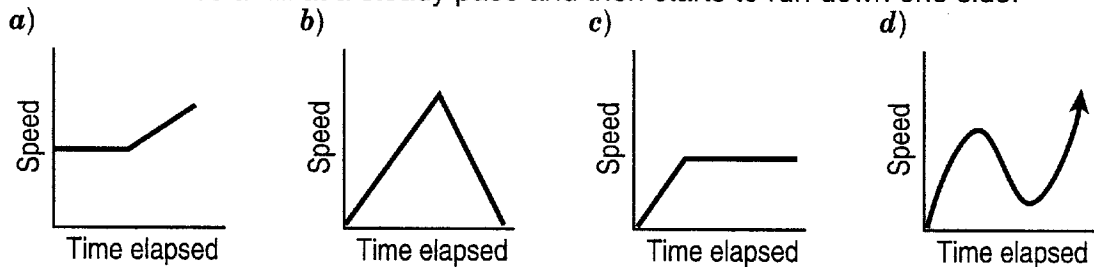
1. A train pulls into a station and lets off its passengers.



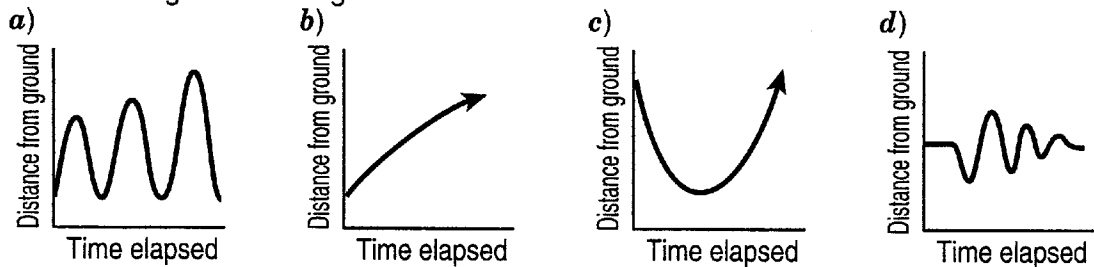
2. A man takes a ride on a ferris wheel.



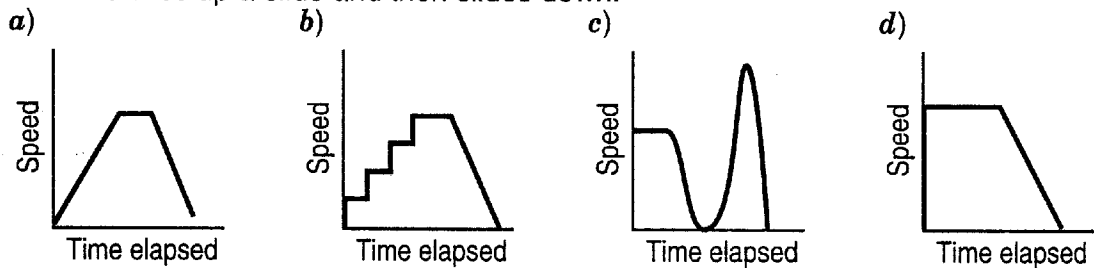
3. A woman climbs a hill at a steady pace and then starts to run down one side.



4. A child swings on a swing.

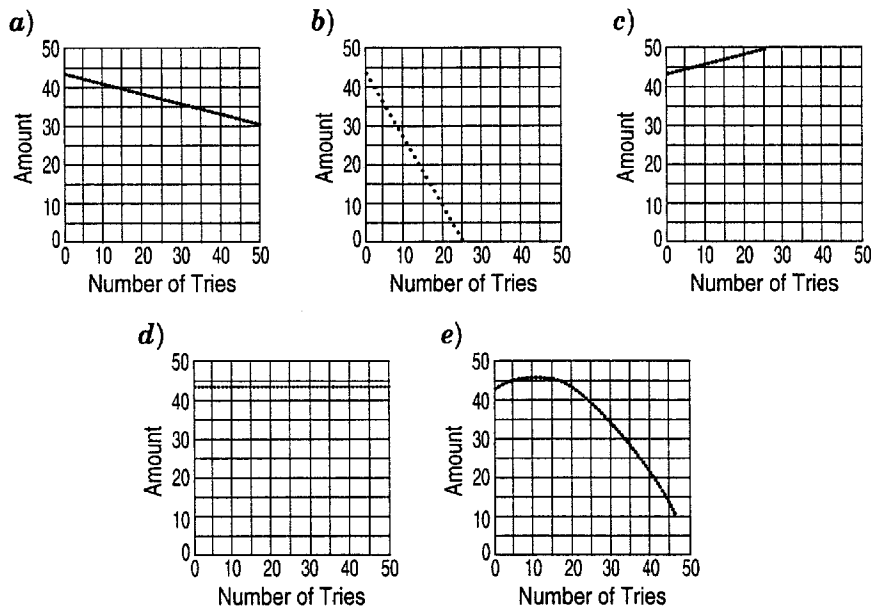


5. A child climbs up a slide and then slides down.

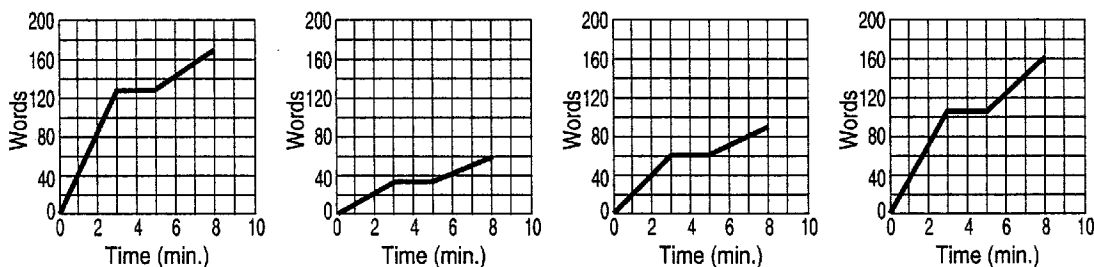


Identifying Graphs Lab

1. Sandra starts out with \$43 and feeds quarters into a slot machine. Which graph shows the amount of money left after x tries, assuming that she never wins?



2. Richard types for three minutes at the rate of thirty-five words per minute. He takes a two-minute break and then types for three more minutes at the rate of twenty words per minute. The graphs below show time on the horizontal axis and the number of words typed on the vertical axis. Which graph represents Richard's time at the typewriter?



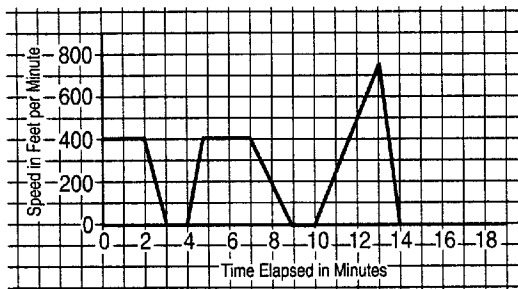
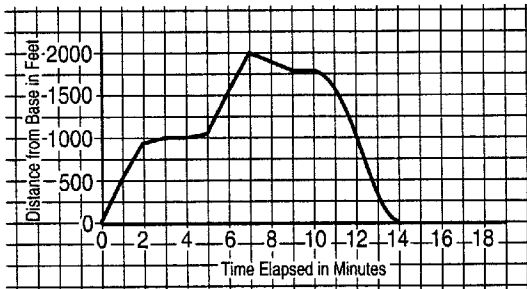
3. Choose one of the answers that was not correct in problem 1 and compose a problem having that answer as its corresponding graph.
4. Make up your own problem of this type and draw a corresponding graph.

Identifying Graphs Lab

1. Sara walks from her home to the store. Halfway to the store, she realizes that she forgot to bring money, so she turns around, returns home, gets her money, and then walks all the way to the store. Graph time on the horizontal axis and distance from home on the vertical axis.
2. Rashid is jumping on a trampoline. Graph time on the horizontal axis and his distance off the ground on the vertical axis.
3. Kendra is speeding along the highway and is stopped by a police officer. The officer gives her a ticket and then she continues on her way. Graph time on the horizontal axis and her speed on the vertical axis.
4. Carlos lives in a large city and travels to school on a local bus that stops at every block to let passengers on and off.
 - a) Graph time on the horizontal axis and the speed of the bus on the vertical axis.
 - b) Graph time on the horizontal axis and the distance Carlos has traveled on the vertical axis.

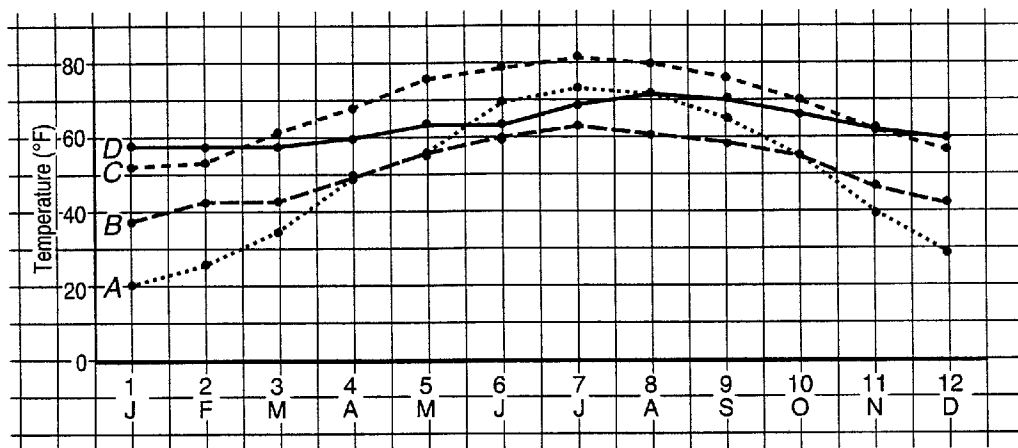
Identifying Graphs Lab

The Mount Southington Ski area claims its lift travels at 400 feet per minute and is 2000 feet long. The graphs that follow record in two ways the trip of one skier up the mountain on the lift and then skiing down the mountain. One graph represents the distance from the bottom of the mountain as a function of time, and the other represents the speed of the skier as a function of time.



1. Did the chairlift stop before the skier reached the top of the mountain? Explain your answer.
2. Is it possible to tell from the distance graph that the speed has dropped to 0? Explain your answer.
3. What is the top speed of the chairlift in miles per hour?
4. What is the top speed of the skier in miles per hour?
5. Notice that between 9 and 10 minutes the speed is 0. What do you think happened?
6. Label five points *A*, *B*, *C*, *D*, and *E* on each graph, matching the distance and speed. Explain why these points match and what was happening at each time.

In the graph below you will find the average monthly temperatures for Jacksonville, Florida; Seattle, Washington; San Diego, California; and Chicago, Illinois. These temperatures are based on records for the thirty-year period from 1951 to 1980, inclusive. On the basis of what you know about the climate of each state, try to guess which state is associated with each graph.



7. State A is _____.
8. State B is _____.
9. State C is _____.
10. State D is _____.

Identifying Graphs Lab

Illustrate each of the situations described below with a graph which shows **distance from the starting point** as a function of time.

Take care! Some of these are tricky. Don't confuse a graph with a picture of the terrain.

When you have finished, compare your answers with those of others in your group. Discuss any differences and try to resolve them. One way of doing this is to ask each person to explain the graph they have drawn.



- a. I was walking to the bus stop when I suddenly saw the bus coming. I ran as fast as I could towards the stop but the bus moved off before I got there. I walked slowly the rest of the way to the stop, and sat waiting for the next bus.
- b. Tran went downhill on his skate board, speeding up as he went. At the bottom of the hill he ran into the kerb and came to a sudden stop.
- c. Trish set off for school one morning. When she was half way there, she remembered she had left some of her books at home, and went back to get them. Then she realised she was going to be late so she hurried all the way to school.
- d. Dale went swimming after school. He swam slowly up and down the pool for half an hour and then did two laps at top speed.
- e. Greg is learning to ski. He waited in a queue at the foot of the ski lift for 10 minutes, rode up in the lift for 3 minutes and then set off downhill. Soon he got out of control and began to go faster and faster, until finally he fell.
- f. Anh and Barbara raced one another to the opposite side of the oval and back. Barbara got a good start and kept up a steady pace all the way. Anh was late getting off the mark, but she ran faster than Barbara, and passed her before they reached the far side. About half-way back to the starting point, Anh stumbled and fell. She got up again quickly, but she had hurt her ankle and, as she limped on, Barbara passed her and won the race.
- g. Kylie and Lisa went on the Big Wheel at the Show. The wheel started up slowly, went faster for a while and then slowed down again and stopped. Sketch a graph to show how their height above ground varied with time.
- h. Ramon and Tim were in the car diametrically opposite the girls. On the same axes, draw another graph to show how their height varied with time.

These two are different! You have to graph *height* against time.



Keep all the graphs you have drawn, so that you can do more work with them later.

