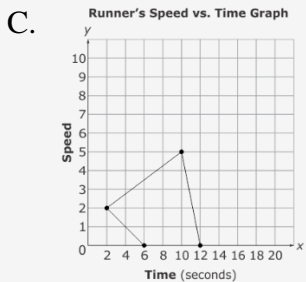
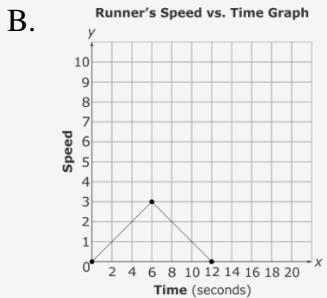
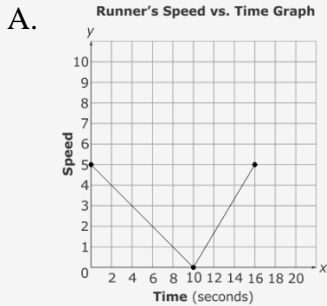


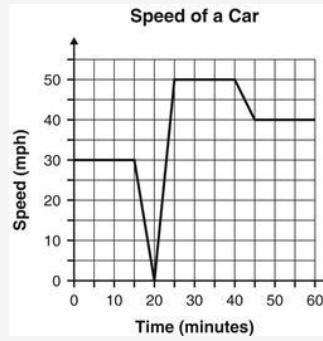
4-1 graphs relating quantities [695845]

Student \_\_\_\_\_  
 Class \_\_\_\_\_  
 Date \_\_\_\_\_

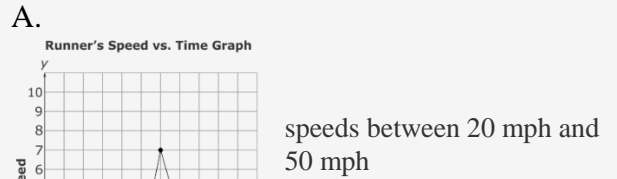
1. Which graph best represents a runner who starts a race quickly, runs at a steady pace, sprints to the finish line, and slowly comes to a stop after crossing the finish line?



2. The graph shows different speeds, in miles per hour (mph), of a car traveling on a trip.



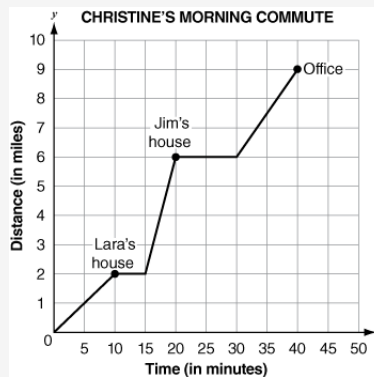
How fast was the car traveling in miles per hour (mph) between 25 minutes and 40 minutes?



B. speeds between 35 mph and 0 mph

C. a constant speed of 40 mph

3. The graph below represents the time in minutes it took Christine to get from her house to the office including the time it took to pick up two friends, Lara and Jim, along the way. The y-axis represents the distance traveled by Christine throughout her morning commute to work.



Part A. In which portion of the trip did Christine have the highest average speed? Explain.

Part B. What do the horizontal lines (after Lara's house and Jim's house) represent?

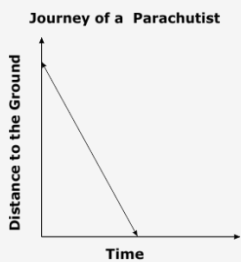
Explain.

Part C. How many miles away is Lara's house from Jim's house?

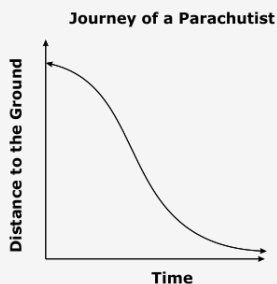
Part D. How many miles does Christine live from her office?

Use words, numbers, and/or pictures to show your work.

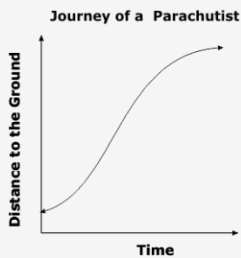
A.



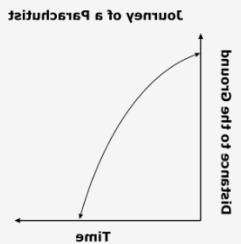
B.



C.



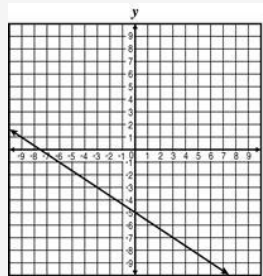
D.



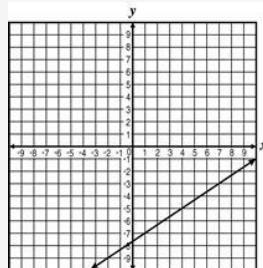
5.

Which graph best represents a line with a slope of  $-\frac{2}{3}$  that passes through  $(7, -3)$ ?

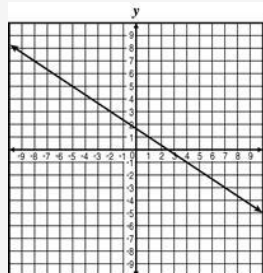
A.



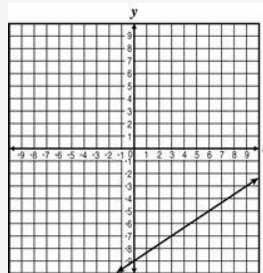
B.



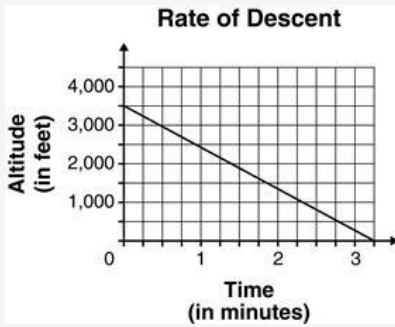
C.



D.

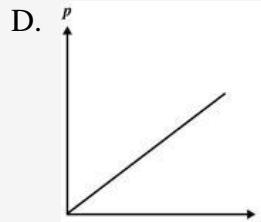
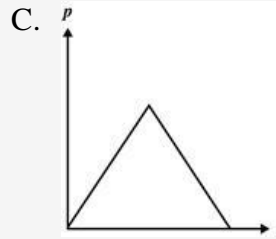
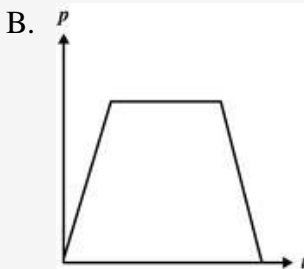
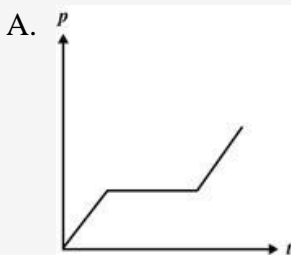


6. The graph shows the rate of descent of a parachutist after his parachute opened at an altitude of 3,500 feet.

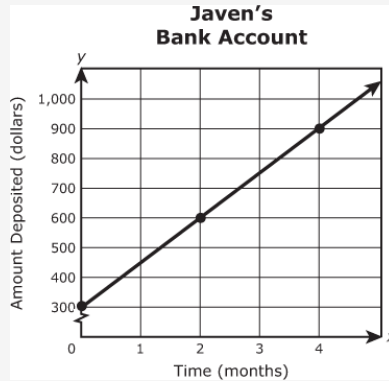


Based on the graph, which best represents the altitude of the parachutist 2.5 minutes after his parachute opened?

- A. 260 feet
  - B. 800 feet
  - C. 1,000 feet
  - D. 1,340 feet
7. In the warm-up phase, the output production of a machine increased at a steady rate. It then began producing at a constant rate. When it neared production goal, it automatically decreased the production rate as it cooled off. Which graph best represents the relationship between the production ( $p$ ) as a function of time ( $t$ )?



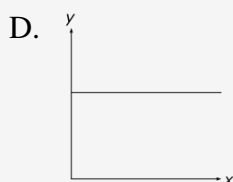
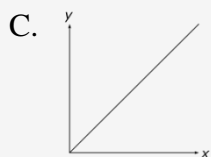
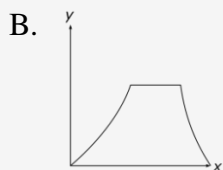
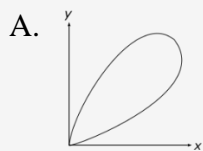
8. Study the graph about Javen's bank account.



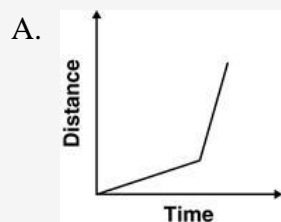
Which interpretation best describes the activity in Javen's bank account?

- A. Javen had \$150 in his account when he began depositing \$300 on a monthly basis.
- B. Javen had \$300 in his account when he began depositing \$150 on a monthly basis.
- C. Javen withdrew \$150 from his account before he began depositing \$300 on a monthly basis.
- D. Javen withdrew \$300 from his account before he began depositing \$150 on a monthly basis

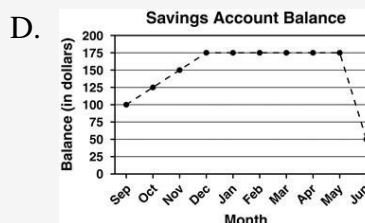
9. Which graph could represent a person walking around a track at a constant rate?



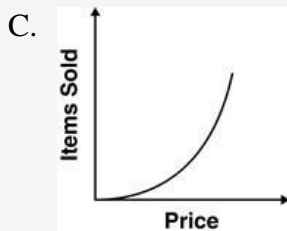
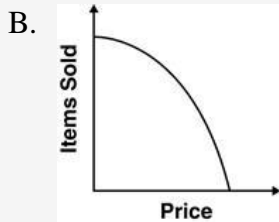
10. A toy car traveled at a constant speed for 40 seconds, and then increased to a slightly faster constant speed for 10 seconds. Which graph best illustrates the speed of the toy car?



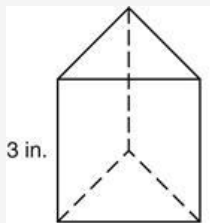
11. Nick opened a savings account in September with \$100 and then added \$25 each month from October through December. He made no deposits for the next 5 months. In June, he withdrew money leaving a balance of \$50. Which graph best represents the amount of money in Nick's account during this time?



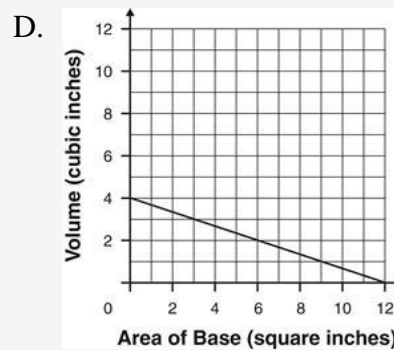
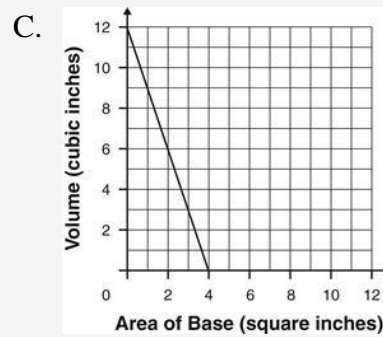
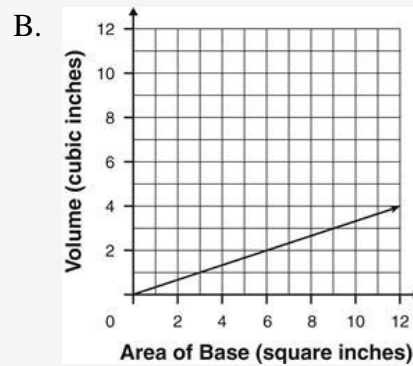
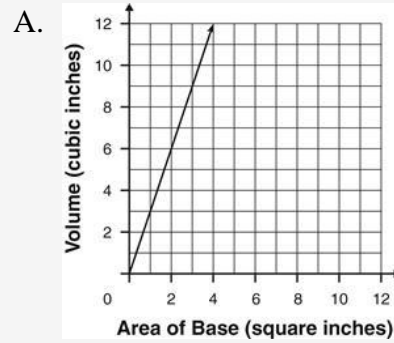
12. A store manager knows that as the price of a particular item increases, the number of items sold will decrease. Which graph best represents this relationship?



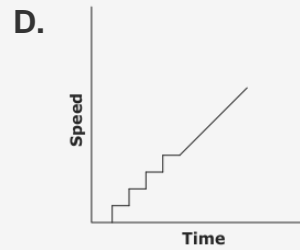
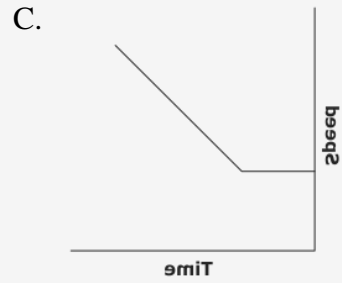
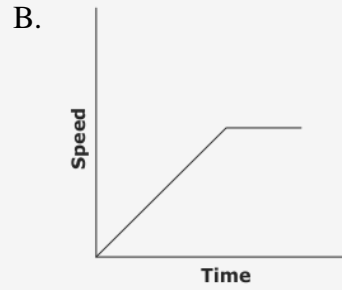
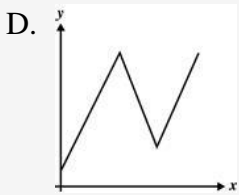
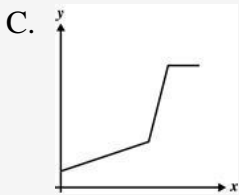
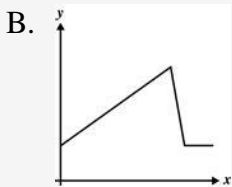
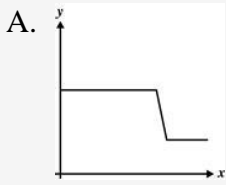
13. A triangular prism has a height of 3 inches and a base that is an equilateral triangle.



Which graph represents the volume of the triangular prism as the area of the base increases?



14. The value of a sculpture steadily increased for several years and then dropped sharply. It then continued to remain at its lowest value. Which graph best represents the value of the sculpture over these years?



15. Jenny is walking upstairs at a steady pace when the school bell rings. At the top of the stairs, she then runs to her classroom. Which graph *best* models the scenario?

