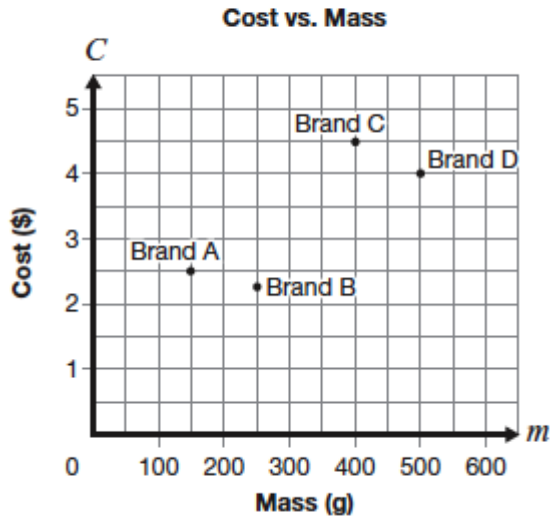1.

The following graph shows the relationship between the mass and the cost of four different brands of strawberry jam.

Cost vs. Mass

Which statement is true?

a   Brand A has the lowest cost.

b   Brand B has the smallest mass.

c   Brand C has the highest cost per gram.

d   Brand D has the lowest cost per gram.

2.

Which table of values shows a linear relation between C and n?

a

n	C
0	0
1	2
2	4
3	8

b

n	C
0	0
1	1
2	4
3	9

c

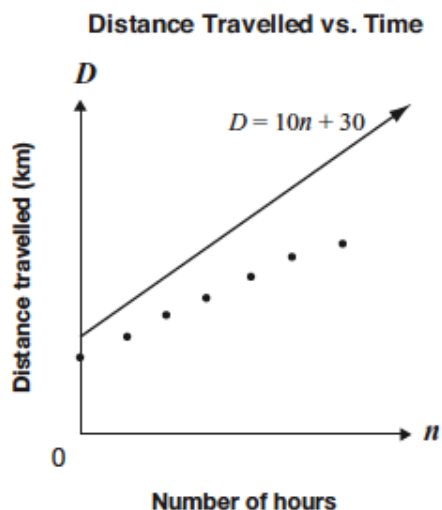| n	C
0	0
1	4
2	11
3	15

d

n	C
0	0
1	3
2	6
3	9

3.

Data on distance travelled and the number of hours spent travelling are shown on the graph below.

The line $D = 10n + 30$ is also shown on the graph.

Distance Travelled vs. Time

Which equation best represents the line of best fit for the data shown?

a $D = 5n + 33$

b $D = 8n + 23$

c $D = 10n + 18$

d $D = 12n + 25$

4.

Nevenka and Juan scuba dive. The graph below represents the relationship between the distance from the surface, in metres, and time, in minutes, for both divers as they swim down from the surface and then swim back up.

Distance from Surface vs. Time
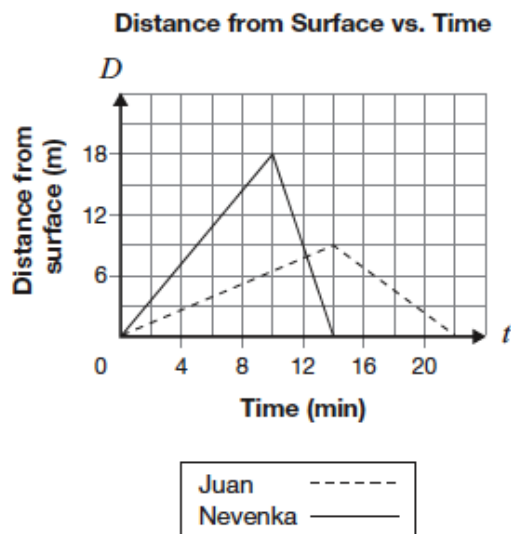
| Juan | - - - - - - |
| Nevenka | ———— |

Which statement below is true?

a   Juan swims back up at a rate of 0.5 m/min.

b   Nevenka swims back up at a rate of 4.5 m/min.

c   Nevenka swims down faster than she swims back up.
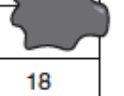
d   Juan swims down and back up at the same rate.

5.

The graph below represents the relationship between Rena's distance from home and time.

Time (min)
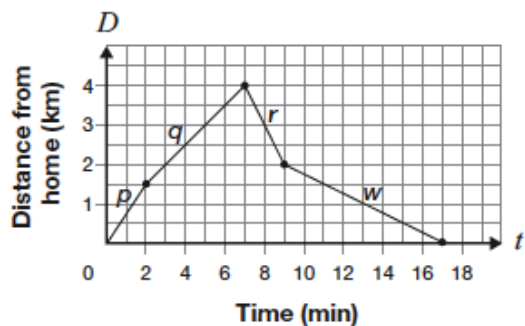
During which section of the graph does Rena travel the fastest?

a p

b q

c r

d w

6.

Gerry has a table of values representing a linear relation. Two of the numbers are hidden behind a ketchup spill.

x	y
−2	−6
−1	
0	
1	18

The values that are hidden are

a   −2 and 14.

b   0 and 12.

c   2 and 10.

d   3 and 9.

7. Tyler walks along a line leading from a motion sensor. The graph below shows information about Tyler's walk.

Distance from Motion Sensor vs. Time
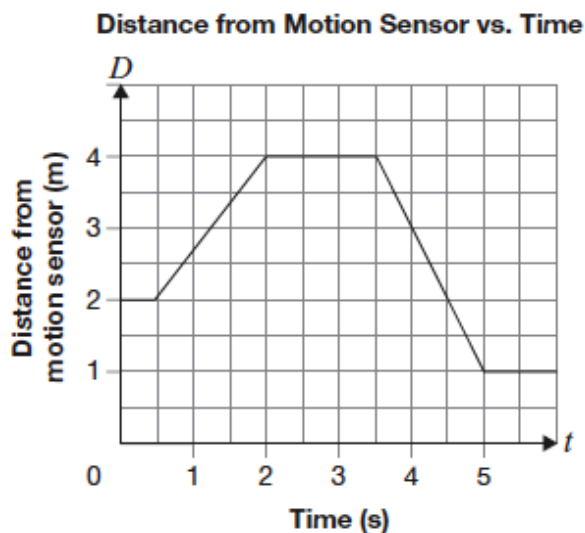
Which of the following is closest to Tyler's speed in metres per second as he walks toward the motion sensor?
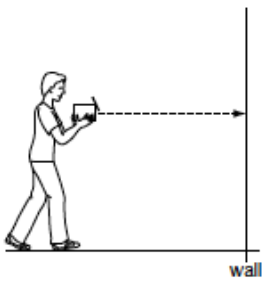
a   2.0

b   1.3

c   0.8

d   0.5

8. The graph below represents the relationship between distance and time on Javier's walk.

Distance vs. Time
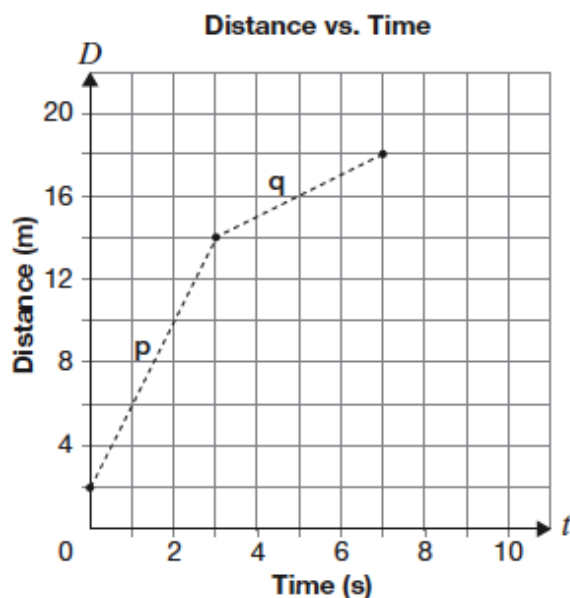
How much greater is Javier's speed in section p than in section q?
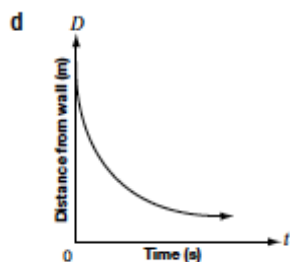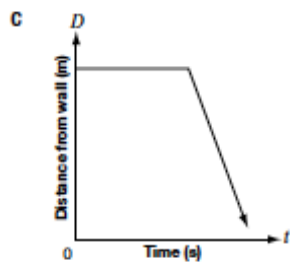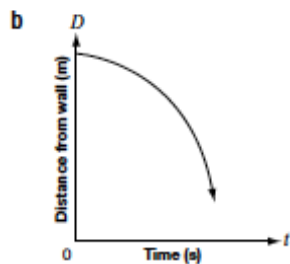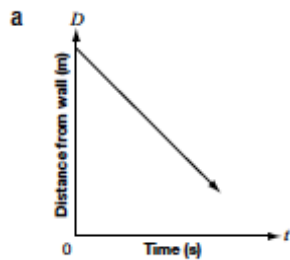
a   0.5 m/s

b   1.5 m/s

c   2.0 m/s

d   3.0 m/s

9.   In an investigation, a student holds a motion detector, points it at a wall and walks toward the wall.

wall

The student walks slowly at first and then speeds up as he approaches the wall.

Which of the following graphs would be produced on the graphing calculator?

a

b

c

d

10.   Which table of values represents a linear relation?

a

x	y
1	$\frac{1}{3}$
2	$\frac{2}{3}$
3	1
4	$\frac{4}{3}$

b

x	y
0	5
5	7
10	10
15	14

c

x	y
1	2
2	4
3	8
4	16

d

x	y
0	$\frac{1}{2}$
5	$\frac{1}{4}$
10	$\frac{1}{6}$
15	$\frac{1}{8}$

11.
Last weekend, Jeremy travelled from his home to a friend's house. The graph below represents the relation between D, the distance from Jeremy's home, and t, the time spent travelling to his friend's house.

Distance from Jeremy's Home vs. Time Spent Travelling
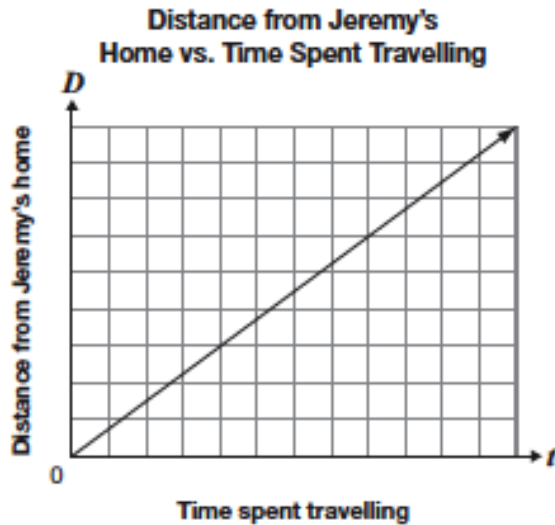
This weekend, Jeremy travels to his friend's house but leaves from school. Jeremy's school is between his house and his friend's house.

If he travels at a faster rate this weekend, how will the line representing this trip compare to the line representing the previous trip?

This new line will

a   start at a higher point and be steeper.

b   start at a higher point and be less steep.

c   start at the current point and be steeper.

d   start at the current point and be less steep.