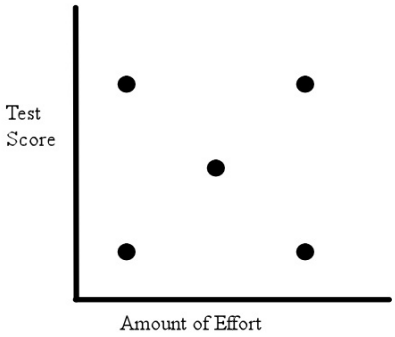
Interpreting points on graphs

Name: _____

Period: _____

Test Scores and effort by students

* Read each statement about the students, then analyze the graph.
* Label four of the points on the graph with the names Tanner, Elizabeth, Brayden, and Britney.
* Make up a statement to reflect the remaining point.



Tanner has put in a lot of time studying and his efforts paid off.

Elizabeth is a capable student, as her test score reflects, but her study habits are very poor. If she spent more time studying she could accomplish a lot.

Brayden completed his assignments in class, but did not study at home. He earned a fair grade on his exam.

Britney worked very diligently to earn a good test score, unfortunately she struggles to complete her test.

Make-up a student's name and write a description for the 5th point on the graph.

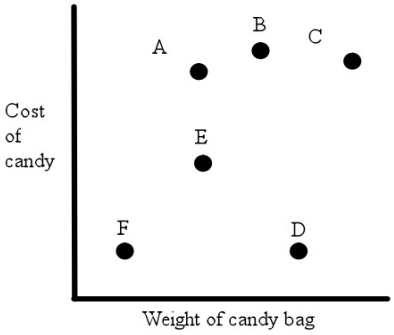
_____

_____

_____

Bags of candy and their costs

At the movie theater there are bins of assorted candy. Customers are allowed to scoop out as much candy as they would like into a bag. The bag is weighed to determine the cost of the candy.



Recorded is the cost of each bag of candy.

1) Which candy bag is the heaviest?

2) Which candy bag is the cheapest?

3) Which candy bags are the same weight?

4) Which candy bags are the same price?

5) Which candy bag, F or D, is a better value for money?
How can you tell?

6) Which candy bag, A or E, is a better value for money?
How can you tell?

7) Which two candy bags would give you the same value for your money?
How can you tell?

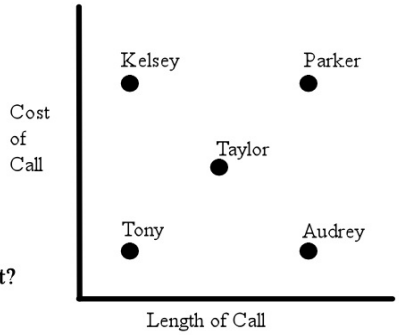
Interpreting points on graphs

Cell phone calls and their costs

One day, five people with the same cell phone plan made a call at different times during the day. The cell company charges a base fee for everyone, plus a charge per minute for each phone call.

Calls made during the day (8:00 a.m. to 6:00 p.m.) are $0.15 per minute.
Calls made during the evening (6:00 p.m. to 9:00 p.m. are $0.10 per minute.
Calls made during the night (9:00 p.m. to 8:00 a.m.) are free.

Recorded is the cost of one call by each person.



1) Who called a best friend at 2:00 p.m. discussing plans for an upcoming concert? Explain your answer.

2) Which people made a call at 11:00 p.m.? Explain your answer.

3) Which people made the same length of call, but during different times during the day? Explain your answer.

Interpreting points on graphs

Answer Key

Test Scores and effort by students

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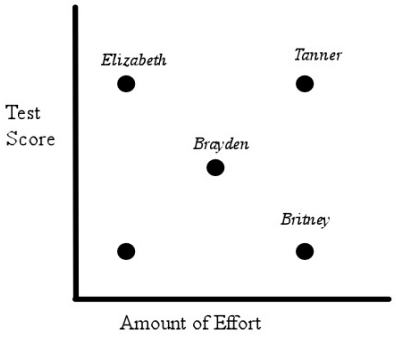

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Make-up a student's name and write a description for the 5th point on the graph.

_____

_____

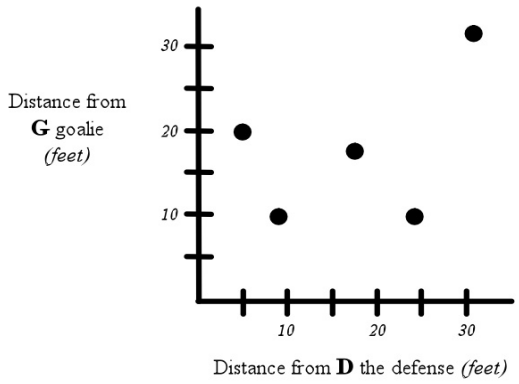
_____

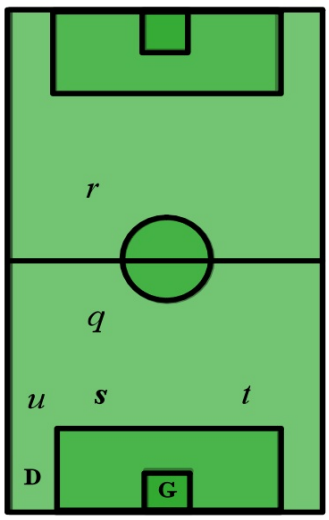
Interpreting points on graphs

Players on a soccer field

On a soccer field there are players in various positions labelled q, r, s, t, and u.

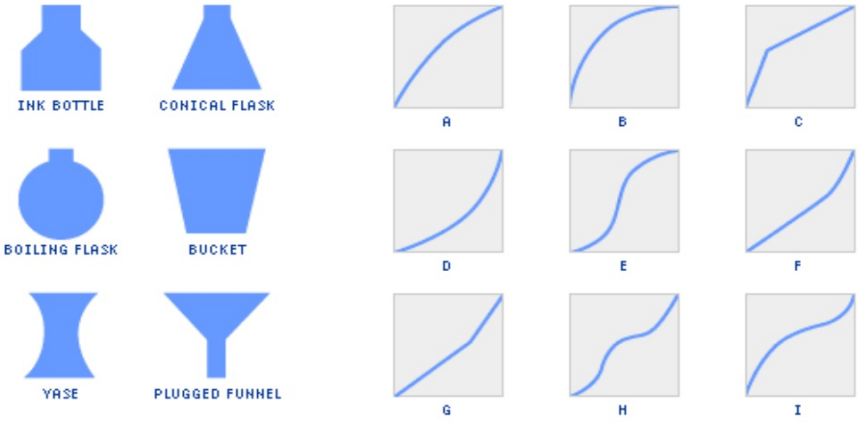
Without measuring, label each point on the graph below with the correct letter.





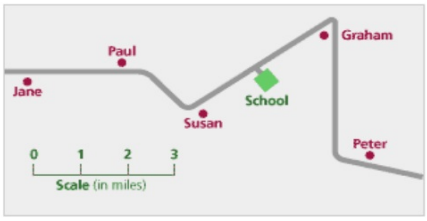
a. Did you ever notice that when filling some bottles, the water all of a sudden spurts out of the top? Why does this happen?

b. Imagine filling each of the six bottles below, pouring water in at a constant rate. For each bottle, choose the correct graph, relating the height of the water to the volume of water that's been poured in.

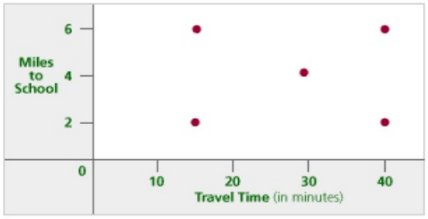


c. For the remaining three graphs, sketch what the bottles should look like.

Jane, Graham, Susan, Paul, and Peter all travel to school along the same country road every morning. Peter goes in his dad's car, Jane cycles, and Susan walks. The other two children vary how they travel from day to day. The map below shows where each person lives. Note 8



The following graph describes each pupil's journey to school last Monday.



a. Label each point on the graph with the name of the person it represents.

b. How did Paul and Graham travel to school on Monday?

c. Describe how you arrived at your answer to (b).

d. In the graph, the points which correspond to Jane, Paul, and Graham lie on a line. What does this suggest about their modes of transportation? Note 9

a. Did you ever notice that when filling some bottles, the water all of a sudden spurts out of the top? Why does this happen?

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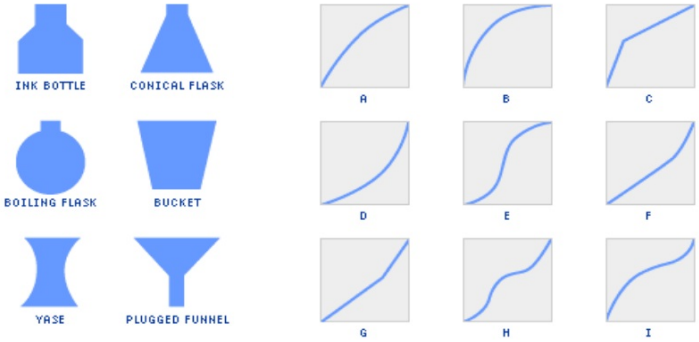


c. For the remaining three graphs, sketch what the bottles should look like.

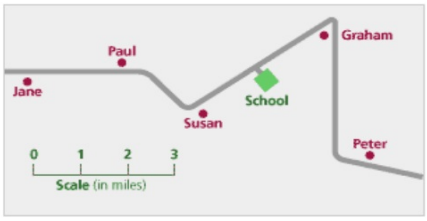
Answer Key

a. Since the bottle is narrower at the top, it will fill faster near the top. This means that the top half of the bottle fills in less time than the bottom half, because it holds less liquid.

b. Animated version of the solution to Problem C9(b). Requires the Flash plug-in.
Ink bottle: F
Conical flask: D
Evaporating flask: I
Bucket: A
Vase: E
Plugged funnel: B

c. Graphs C and G would require quick changes to a constant width. Graph C would go from a small width to a large width; G is the opposite. As for graph H, notice the similarity to graph E.

Jane, Graham, Susan, Paul, and Peter all travel to school along the same country road every morning. Peter goes in his dad's car, Jane cycles, and Susan walks. The other two children vary how they travel from day to day. The map below shows where each person lives. Note 8



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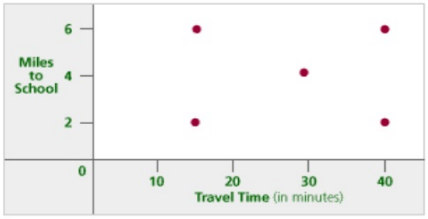

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Answer Key

a. Top left: Peter; top right: Jane; center: Paul; bottom left: Graham; bottom right: Susan

b. A good guess would be that Paul and Graham each biked to school.

c. It cannot be a ride, because Peter, who goes in his dad's car, arrives so quickly. It cannot be a walk, because Susan takes so long to arrive. Also, notice that Graham, Paul, and Jane's points lie on one diagonal line through the intersection of the axes. (What would the value of distance divided by rate represent?)

d. This suggests that all three used the same mode of transportation. Because Jane biked to school, it is likely that Paul and Graham did as well.