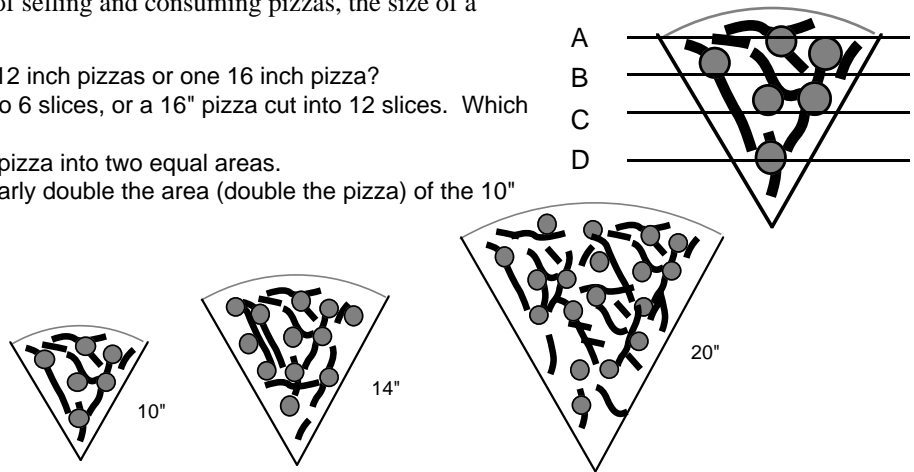


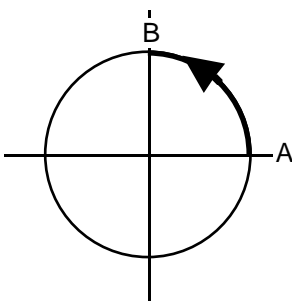
pizza questions (In the world of selling and consuming pizzas, the size of a pizza refers to its diameter).

1. Which contains more pizza, two 12 inch pizzas or one 16 inch pizza?
2. Domino's sells a 12" pizza cut into 6 slices, or a 16" pizza cut into 12 slices. Which slice is bigger?
3. Which line most exactly cuts the pizza into two equal areas.
4. Which slice of pizza has most nearly double the area (double the pizza) of the 10" slice?



Behavior of geometric variables

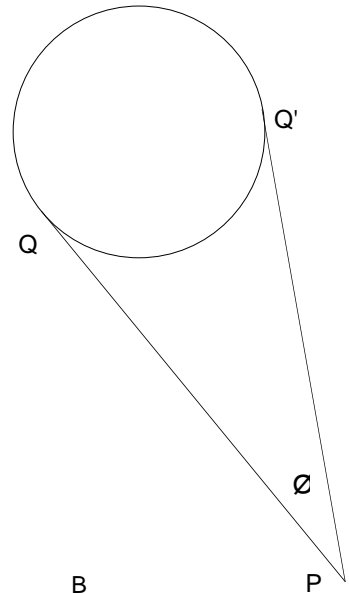
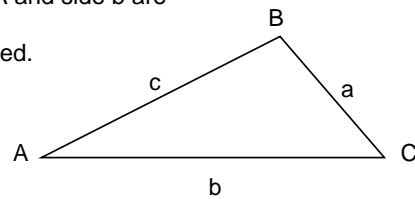
1. From a point P tangents are drawn to a circle, forming an angle \emptyset (see picture). What happens to \emptyset as the point P is pulled away from the circle.? How small can \emptyset get? When P is close to the circle, how large can \emptyset get? If Q and Q' are the points of tangency on the circle, what happens to those points as P is pulled away from the circle.



2. On a circle of radius 1, with its center at the origin, describe what happens to the x coordinate of a point as it moves from A to B. What happens to the y coordinate?

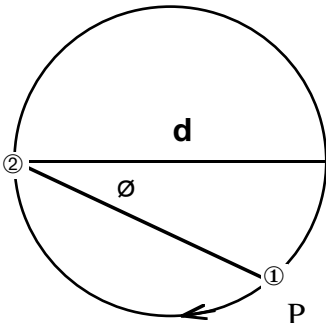
3. Given $\triangle ABC$, you are to imagine that the sides are rubber bands and that you can grab a vertex and pull it. Capital letters represent angles and vertices while little letters represent the sides opposite those angles. Make three copies on a piece of paper. On top of one draw a new triangle that portrays (a), on another (b) and so on.

- (a) Move B so that c increases, while angle A and side b are unchanged.
- (b) Move B so that sides a and b are unchanged.
- (c) Move B so that angle C is close to 180° .



4. How does the area of the triangle change as B is pulled in direction 1, in direction 2?

5. P is the endpoint of the chord. What happens to \emptyset as P moves from 1 to 2. What happens to L, the length of the chord. What is the relationship between \emptyset and L?



6. The illustration to the right shows right triangle ABC. The arrow shows how to move C forming a new right triangle ABC. What happened to angles A and B and sides a and b? On a sheet of paper copy the original right triangle ABC. Show how to move point B so that angle A is unchanged. How did angles B and C change? What about sides a and c? Now move B so that the length of side a is unchanged. What happens to angles A, B and C? What happens to side c?

