

H. Geometry - Bellwork #10



Topic 1 Using Inductive Reasoning and Conjectures

Look through SAS #3 & #4.

List ALL facts you learned so far about each concept/vocabulary term.

Incenter	Circumcenter
<ul style="list-style-type: none"> - point of intersection of the three bisectors of a Δ. - equidistant from all three sides of the Δ. - center of the inscribed circle 	<ul style="list-style-type: none"> - point of intersection of all three bisectors of a Δ. - center of the circumscribed \odot. - forms equal radii w/ the \odot - equidistant to the vertices

Always on the inside of the Δ

outside except for an acute

In which triangle are the circumcenter and the incenter located at the same point?

- ☐ Acute scalene
 ☐ Obtuse scalene
- ☐ Right scalene
 ☒ Equilateral
- ☐ Isosceles

Which triangle has the circumcenter located in its interior?

- ☒ Acute scalene
 ☐ Obtuse scalene
- ☐ Right scalene
 ☐ All of the above.
- ☐ None of the above.

Which triangle has the incenter located in its interior?

- ☐ Acute scalene
 ☐ Obtuse scalene
- ☐ Right scalene
 ☒ All of the above.
- ☐ None of the above.

Which triangle has the circumcenter located at a point in its exterior (outside of the region bounded by its three sides)?

- ☐ Acute scalene
☐ Right scalene
☐ None of the above.
- ☒ Obtuse scalene
☐ All of the above.

Which triangle has the circumcenter located at a point on one of its sides?

- ☐ Acute scalene
☒ Right scalene
☐ None of the above.
- ☐ Obtuse scalene
☐ All of the above.
- hypotenuse

The circumcenter of a triangle is equidistant from the of the triangle because it is the intersection of the triangle's .

perpendicular bisectors sides
angle bisectors vertices

vertices
I bisectors

Three towns, Rap City, Hiphopton, and Rockville are linked by three straight roads. Loretta Adman has created a three-sided billboard that she wants to position close as possible to all three roads. To do this she needs to find the of the triangle formed by the three roads.

circumcenter incenter center



Fill in the blank with the best answer.

The incenter of a triangle is in the interior of a triangle.

always

For which type of triangle(s) is the circumcenter **not** inside of the triangle? Select all that apply.

- ☒ Right scalene triangle
- ☐ Acute isosceles triangle
- ☒ Right isosceles triangle

- ☒ Obtuse scalene triangle
- ☒ Obtuse isosceles triangle