

Circular Reasoning Puzzle #1

Can you make two sectors with the same central angle but differently sized arcs?

Circular Reasoning Puzzle #2

Can you make two segments with the same radius length and same chord length but different central angles?

Circular Reasoning Puzzle #3

Can you make two angles that look exactly the same but have different central angles?

Circular Reasoning Puzzle #4

Can you make two radii that look exactly the same but one has an initial direction of zero and the other has an initial direction of sixty?

Circular Reasoning Puzzle #5

Can you make a fraction circle with each piece an obtuse angle? If so, how many pieces does it have?

Circular Reasoning Puzzle #6

Which fraction circles have pieces with acute angles?

Circular Reasoning Puzzle #7

Can you make a fraction circle with reflex angles? If not, why not? If so, make one and explain how you made it.

Circular Reasoning Puzzle #8

Make two congruent angles with different radius lengths and different initial directions. How do you know they are congruent?

Circular Reasoning Puzzle #9

Make an angle of sixty degrees. Make a radius that bisects that angle. What is the initial direction of your angle? What is the initial direction of your radius? What is the central angle of your radius?

Circular Reasoning Puzzle #10

Make two radii that are perpendicular to each other. Neither radius can have an initial direction of 0, 90, 180, 270, or 360.

Circular Reasoning Puzzle #11

Which fraction circles can you slide to make parallel lines? What do those fraction circles have in common?

Circular Reasoning Puzzle #12

Planet X is 100,000,000 miles away from its sun. It revolves around its sun in 360 days. How far will it be from its current position in 180 days? Hint: Play around with satellites. What slider would you use to change the distance of satellites from their “sun”? How would you show revolution through 180 days? Notice that none of the sliders has 100,000,000 on it, so use 100 instead and just remember that you’re talking about millions of miles.

Circular Reasoning Puzzle #13

Make a pair of supplementary angles with one central angle twice the size of the other. What is the size of the smaller central angle? The larger central angle?

Circular Reasoning Puzzle #14

Make a pair of complementary angles with one central angle twenty degrees more than the other central angle. What is the size of the smaller central angle? The larger central angle?

Circular Reasoning Puzzle #15

Make a pair of complementary vertical angles. What size are the angles?