TOPIC

Competency: Measurement- I can use various geometric properties to find key measurements of particular geometric figures.

Standard – G.GPE.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.

Learning Targets & Skills		Vocabulary
4.0	Student goes above and beyond simple mastery to demonstrates a deeper understanding than a Level 3.0.	• Coordinates • Endpoint • Line Segment • Line • Point • Ratio • Section Formula
3.0	PLS1- I **can partition line segments in a given ratio**	**Resources**
2.0	• State that a line segment is the set of all points in a straight line between two well-defined endpoints. • Identify coordinates for the endpoints of a line segment on the coordinate plane. • Explain that the section formula states that for a line segment with endpoints at and , in which a point separates the line segment into a ratio of , the coordinates of point will be .	• Type here

Evidence

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Standard – G.GPE.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.

Learning Targets & Skills		Vocabulary
4.0	Student goes above and beyond simple mastery to demonstrates a deeper understanding than a Level 3.0.	• Bisect • Bisector • Coordinates • Endpoint • Line Segment • Line • Midpoint Formula • Point
3.0	**PLS2- I can determine the location of the point which bisects a line segment**	**Resources**
2.0	• State that a line segment is the set of all points in a straight line between two well-defined endpoints. • Identify coordinates for the endpoints of a line segment on the coordinate plane. • Explain that the bisector of a line segment divides that line segment into two equal lengths. • Explain that the midpoint formula states that for any two points and , the point exactly halfway between those points will be located at .	• Type here

Evidence

TOPIC

Competency: Measurement- I can use various geometric properties to find key measurements of particular geometric figures.

Standard – G.C.2 Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.

Learning Targets & Skills	
4.0	Student goes above and beyond simple mastery to demonstrates a deeper understanding than a Level 3.0.
3.0	**AC1- I can identify the relationships between inscribed angles, central angles, circumscribed angles, and arcs of a circle**
2.0	• State that the angle measure of a circle's entire circumference is equal to . • State that an arc of a circle is the portion of a circle's circumference that lies between two points. • State that an arc formed when the rays of an angle intersect the circumference of a circle is said to be intercepted by that angle. • State that a central angle of a circle is an angle whose vertex is at the circle's center. • State that an inscribed angle of a circle is an angle whose vertex sits on the circle's circumference and whose rays intersect the circumference. • Explain that the measure of an inscribed angle is half the measure of the central angle that intercepts the same arc. • Explain that an inscribed angle that intersects the circle at the same two points as a diameter has a measure of . • State that a circumscribed angle of a circle is an angle whose vertex lies outside the circle and whose rays are tangent to the circumference of the circle. • Explain that a tangent of a circle is perpendicular to a radius that intercepts the circumference of the circle at the same point as the tangent. • Identify the quadrilateral formed by the central and circumscribed angles of a circle that intercept the same arc. • Explain that the measures of the angles of a quadrilateral add up to .

Vocabulary

- Angle
- Arc
- Boundary
- Center
- Central angle
- Circle
- Circumference
- Circumscribed angle
- Inscribed angle
- Intersect
- Perpendicular
- Plane
- Point
- Quadrilateral
- Radius
- Ray
- Tangent
- vertex

Resources

- Type here

TOPIC

Competency: Measurement- I can use various geometric properties to find key measurements of particular geometric figures.

Standard – G.C.2 Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.

Learning Targets & Skills	
4.0	Student goes above and beyond simple mastery to demonstrates a deeper understanding than a Level 3.0.
3.0	**AC2- I can prove the properties of the angles of quadrilaterals inscribed within a circle**
2.0	• State that a minor arc is the shortest distance around the circumference of a circle between two points on the circle. • State that a major arc is the longest distance around the circumference of a circle between two points on the circle. • State that the angle measure of a circle's entire circumference is equal to . • State that a quadrilateral is a two-dimensional figure with four straight sides. • Explain that a quadrilateral whose vertices all lie on the boundary of a circle is said to be inscribed within the circle. • Explain that a quadrilateral that can be inscribed within a circle is known as a cyclic quadrilateral. • Explain that the measures of the angles of a quadrilateral add up to . • State that a central angle of a circle is an angle whose vertex is at the circle's center. • Explain that the sum of the angle measures of the minor and major arcs intercepted by an angle is equal to . • State that an inscribed angle of a circle is an angle whose vertex sits on the circle's circumference and whose rays intersect the circumference. • Identify the opposite angles of a quadrilateral inscribed within a circle as inscribed angles of the circle which intersect the circle at the same points. • Explain that the measure of an inscribed angle is half the measure of the central angle that intercepts the same arc. • Explain that the sum of the measures of the opposite angles of an inscribed quadrilateral is equal to half the sum of the measures of the central angles that intercept the same arcs. • Explain that the measures of the opposite angles of a quadrilateral inscribed within a circle add up to .

Vocabulary

- Angle
- Arc
- Boundary
- Center
- Central angle
- Circle
- Circumference
- Circumscribed angle
- Cyclic quadrilateral
- Vertices
- Inscribed angle
- Intersect
- Major arc
- Minor arc
- Opposite angles
- Perpendicular
- Plane
- Point
- Quadrilateral
- Radius
- Ray
- Tangent

Resources

- Type here

COURSE:

Competency: Measurement- I can use various geometric properties to find key measurements of particular geometric figures.

Standard - Description

Learning Targets & Skills

4.0	Student goes above and beyond simple mastery to demonstrates a deeper understanding than a Level 3.0.
3.0	**I can give an informal argument for the area of a circle**
2.0	• State that a sector of a circle is a portion of the circle enclosed by two radii and the arc they intercept. • Explain that a radian is a unit of angle measure. • Explain that an angle with a measure of one radian intercepts an arc of a circle with a length equal to one radius of the circle. • Explain that the measure of a central angle is proportional to the angle of the entire circle. • Explain that the angle of an entire circle is equal to radians. • Explain that the ratio of any central angle of radians to the entire angle of a circle can be expressed as . • Explain that the ratio of any central angle of degrees to the entire angle of a circle can be expressed as . • State that the formula for the circumference of a circle is , in which is the length of the radius. • Explain that the area of a circle is equal to one-half its circumference times its radius (). • State that the formula for the area of a circle is , in which is the radius. • Explain that the area of a sector is proportional to the area of the entire circle. • Explain that the ratio of an area of a sector to the area of the circle is

Vocabulary

- •Angle
- •Arc
- •Area
- •Boundary
- •Center
- •Radius
- •Ray
- •triangle
- •Central angle
- •Circle
- •Circumference
- •Congruent
- •Intersect
- •Plane
- •Point
- •Vertex

Resources

- Type here

TOPIC

Competency: Measurement- I can use various geometric properties to find key measurements of particular geometric figures.

Standard – G.C.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector

Learning Targets & Skills	
4.0	Student goes above and beyond simple mastery to demonstrates a deeper understanding than a Level 3.0.
3.0	**CAM2- I can derive the formula for the area of a sector**
2.0	• State that a sector of a circle is a portion of the circle enclosed by two radii and the arc they intercept. • Explain that a radian is a unit of angle measure. • Explain that an angle with a measure of one radian intercepts an arc of a circle with a length equal to one radius of the circle. • Explain that the measure of a central angle is proportional to the angle of the entire circle. • Explain that the angle of an entire circle is equal to radians. • Explain that the ratio of any central angle of radians to the entire angle of a circle can be expressed as . • Explain that the ratio of any central angle of degrees to the entire angle of a circle can be expressed as . • State that the formula for the circumference of a circle is , in which is the length of the radius. • Explain that the area of a circle is equal to one-half its circumference times its radius (). • State that the formula for the area of a circle is , in which is the radius. • Explain that the area of a sector is proportional to the area of the entire circle. • Explain that the ratio of an area of a sector to the area of the circle is equal to the ratio of the sector's angle to the angle of the entire circle. • Explain that the area of a sector with an angle of radians can be expressed as . • State that the formula for the area of a sector with an angle of is , in which is expressed in radians and is the radius. • State that the formula for the area of a sector with an angle of is , in which is expressed in degrees and is the radius. • State that one radian is equal to degrees. • State that one degree is equal to radians.

Vocabulary

- Angle
- Arc
- Area
- Boundary
- Center
- Radius
- Ray
- triangle
- Central angle
- Circle
- Circumference
- Congruent
- Intersect
- Plane
- Point
- Vertex

Resources

- Type here