

# Performance Task Circle Constructions Worksheet Answer Key PDF

Performance Task Circle Constructions Worksheet Answer Key PDF

*Disclaimer: The performance task circle constructions worksheet answer key pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at [max@studyblaze.io](mailto:max@studyblaze.io).*

## Part 1: Building a Foundation

---

### What is the definition of a circle?

undefined. A) A shape with four equal sides

**undefined. B) A set of points equidistant from a central point ✓**

undefined. C) A polygon with three sides

undefined. D) A line segment with two endpoints

A circle is defined as a set of points that are equidistant from a central point.

### What is the definition of a circle?

undefined. A) A shape with four equal sides

**undefined. B) A set of points equidistant from a central point ✓**

undefined. C) A polygon with three sides

undefined. D) A line segment with two endpoints

A circle is defined as a set of points equidistant from a central point.

### What is the definition of a circle?

undefined. A) A shape with four equal sides

**undefined. B) A set of points equidistant from a central point ✓**

undefined. C) A polygon with three sides

undefined. D) A line segment with two endpoints

A circle is defined as a set of points equidistant from a central point.

### Which of the following are parts of a circle? (Select all that apply)

undefined. **A) Radius** ✓

undefined. **B) Diameter** ✓

undefined. **C) Tangent** ✓

undefined. D) Vertex

The parts of a circle include the radius, diameter, and tangent.

**Which of the following are parts of a circle? (Select all that apply)**

undefined. **A) Radius** ✓

undefined. **B) Diameter** ✓

undefined. **C) Tangent** ✓

undefined. D) Vertex

The parts of a circle include the radius, diameter, and tangent.

**Which of the following are parts of a circle? (Select all that apply)**

undefined. **A) Radius** ✓

undefined. **B) Diameter** ✓

undefined. **C) Tangent** ✓

undefined. D) Vertex

The parts of a circle include the radius, diameter, and tangent.

**Describe the relationship between the diameter and the radius of a circle.**

**The diameter is twice the length of the radius.**

**Describe the relationship between the diameter and the radius of a circle.**

**The diameter is twice the length of the radius.**

**Describe the relationship between the diameter and the radius of a circle.**

**The diameter is twice the length of the radius.**

**What is the value of  $\pi$  (pi) approximately?**

undefined. A) 2.718

**undefined. B) 3.14159 ✓**

undefined. C) 1.618

undefined. D) 0.577

The approximate value of  $\pi$  is 3.14159.

**What is the value of  $\pi$  (pi) approximately?**

undefined. A) 2.718

**undefined. B) 3.14159 ✓**

undefined. C) 1.618

undefined. D) 0.577

The value of  $\pi$  is approximately 3.14159.

**What is the value of  $\pi$  (pi) approximately?**

undefined. A) 2.718

**undefined. B) 3.14159 ✓**

undefined. C) 1.618

undefined. D) 0.577

The value of  $\pi$  is approximately 3.14159.

## Part 2: comprehension and Application

---

**If a circle has a radius of 5 cm, what is its diameter?**

undefined. A) 5 cm

**undefined. B) 10 cm ✓**

undefined. C) 15 cm

undefined. D) 20 cm

The diameter is twice the radius, so it is 10 cm.

**If a circle has a radius of 5 cm, what is its diameter?**

undefined. A) 5 cm

**undefined. B) 10 cm ✓**

undefined. C) 15 cm

undefined. D) 20 cm

The diameter is twice the radius, so it is 10 cm.

**If a circle has a radius of 5 cm, what is its diameter?**

undefined. A) 5 cm

**undefined. B) 10 cm ✓**

undefined. C) 15 cm

undefined. D) 20 cm

The diameter is twice the radius, so it is 10 cm.

**Which statements about tangents are true? (Select all that apply)**

**undefined. A) A tangent touches the circle at exactly one point. ✓**

undefined. B) A tangent is always parallel to the radius.

**undefined. C) A tangent is perpendicular to the radius at the point of contact. ✓**

undefined. D) A tangent can intersect the circle at two points.

A tangent touches the circle at exactly one point and is perpendicular to the radius at that point.

**Which statements about tangents are true? (Select all that apply)**

**undefined. A) A tangent touches the circle at exactly one point. ✓**

undefined. B) A tangent is always parallel to the radius.

**undefined. C) A tangent is perpendicular to the radius at the point of contact. ✓**

undefined. D) A tangent can intersect the circle at two points.

A tangent touches the circle at exactly one point and is perpendicular to the radius at that point.

**Which statements about tangents are true? (Select all that apply)**

**undefined. A) A tangent touches the circle at exactly one point. ✓**

undefined. B) A tangent is always parallel to the radius.

**undefined. C) A tangent is perpendicular to the radius at the point of contact. ✓**

undefined. D) A tangent can intersect the circle at two points.

A tangent touches the circle at exactly one point and is perpendicular to the radius at that point.

**Explain why the angle in a semicircle is always a right angle.**

**The angle in a semicircle is always a right angle because it subtends a diameter.**

**Explain why the angle in a semicircle is always a right angle.**

**The angle in a semicircle is always a right angle due to the inscribed angle theorem.**

**Explain why the angle in a semicircle is always a right angle.**

**The angle in a semicircle is always a right angle due to the inscribed angle theorem.**

**You are given a circle with a radius of 7 cm. What is the circumference of the circle? (Use  $\pi \approx 3.14$ )**

undefined. A) 21.98 cm

**undefined. B) 43.96 cm ✓**

undefined. C) 14 cm

undefined. D) 28 cm

The circumference is approximately 43.96 cm.

**You are given a circle with a radius of 7 cm. What is the circumference of the circle? (Use  $\pi \approx 3.14$ )**

undefined. A) 21.98 cm

**undefined. B) 43.96 cm ✓**

undefined. C) 14 cm

undefined. D) 28 cm

The circumference is approximately 43.96 cm.

**You are given a circle with a radius of 7 cm. What is the circumference of the circle? (Use  $\pi \approx 3.14$ )**

undefined. A) 21.98 cm

**undefined. B) 43.96 cm ✓**

undefined. C) 14 cm

undefined. D) 28 cm

The circumference is approximately 43.96 cm.

**Which of the following constructions can be made using a compass and straightedge? (Select all that apply)**

**undefined. A) Drawing a circle with a given radius ✓**

**undefined. B) Construct a tangent from a point outside the circle ✓**

**undefined. C) Dividing a circle into three equal parts ✓**

**undefined. D) Finding the center of a given circle ✓**

You can draw a circle, construct a tangent, divide a circle, and find the center using these tools.

**Which of the following constructions can be made using a compass and straightedge? (Select all that apply)**

**undefined. A) Drawing a circle with a given radius ✓**

**undefined. B) Construct a tangent from a point outside the circle ✓**

**undefined. C) Dividing a circle into three equal parts ✓**

**undefined. D) Finding the center of a given circle ✓**

You can draw a circle, construct a tangent, and find the center using these tools.

**Which of the following constructions can be made using a compass and straightedge? (Select all that apply)**

**undefined. A) Drawing a circle with a given radius ✓**

**undefined. B) Construct a tangent from a point outside the circle ✓**

**undefined. C) Dividing a circle into three equal parts ✓**

**undefined. D) Finding the center of a given circle ✓**

You can draw a circle, construct a tangent, and find the center using these tools.

**Describe the steps to construct a circle through three non-collinear points.**

To construct a circle through three non-collinear points, you can find the circumcenter of the triangle formed by the points.

Describe the steps to construct a circle through three non-collinear points.

To construct a circle through three non-collinear points, you can find the circumcenter.

Describe the steps to construct a circle through three non-collinear points.

To construct a circle through three non-collinear points, you can find the circumcenter.

### Part 3: Analysis, Evaluation, and Creation

---

If two chords in a circle are equal in length, what can be said about their distance from the center?

undefined. A) They are at different distances from the center.

undefined. **B) They are equidistant from the center. ✓**

undefined. C) One is closer to the center than the other.

undefined. D) The distance cannot be determined.

If two chords are equal in length, they are equidistant from the center of the circle.

If two chords in a circle are equal in length, what can be said about their distance from the center?

undefined. A) They are at different distances from the center.

undefined. **B) They are equidistant from the center. ✓**

undefined. C) One is closer to the center than the other.

undefined. D) The distance cannot be determined.

If two chords are equal in length, they are equidistant from the center of the circle.

If two chords in a circle are equal in length, what can be said about their distance from the center?

undefined. A) They are at different distances from the center.

undefined. **B) They are equidistant from the center. ✓**

undefined. C) One is closer to the center than the other.

undefined. D) The distance cannot be determined.

The two chords are equidistant from the center of the circle.

**Analyze the following statements and identify which are true regarding inscribed angles. (Select all that apply)**

undefined. **A) An inscribed angle is half the measure of the central angle subtending the same arc.** ✓

undefined. **B) Inscribed angles subtending the same arc are equal.** ✓

undefined. C) Inscribed angles can only be right angles.

undefined. D) The inscribed angle theorem applies to all polygons.

Inscribed angles are half the measure of the central angle subtending the same arc.

**Analyze the following statements and identify which are true regarding inscribed angles. (Select all that apply)**

undefined. **A) An inscribed angle is half the measure of the central angle subtending the same arc.** ✓

undefined. **B) Inscribed angles subtending the same arc are equal.** ✓

undefined. C) Inscribed angles can only be right angles.

undefined. D) The inscribed angle theorem applies to all polygons.

Inscribed angles are half the measure of the central angle subtending the same arc, and angles subtending the same arc are equal.

**Analyze the following statements and identify which are true regarding inscribed angles. (Select all that apply)**

undefined. **A) An inscribed angle is half the measure of the central angle subtending the same arc.** ✓

undefined. **B) Inscribed angles subtending the same arc are equal.** ✓

undefined. C) Inscribed angles can only be right angles.

undefined. D) The inscribed angle theorem applies to all polygons.

Inscribed angles are half the measure of the central angle subtending the same arc.

**Compare and contrast the properties of a tangent and a secant line in relation to a circle.**



**A tangent touches the circle at one point, while a secant intersects the circle at two points.**

**Compare and contrast the properties of a tangent and a secant line in relation to a circle.**

**A tangent line touches the circle at one point, while a secant line intersects the circle at two points.**

**Compare and contrast the properties of a tangent and a secant line in relation to a circle.**

**A tangent touches the circle at one point, while a secant intersects the circle at two points.**

**Which of the following statements best evaluates the properties of cyclic quadrilaterals?**

undefined. A) All sides are equal.

**undefined. B) Opposite angles sum to 180 degrees. ✓**

undefined. C) Diagonals are perpendicular.

undefined. D) All angles are right angles.

Opposite angles in cyclic quadrilaterals sum to 180 degrees.

**Which of the following statements best evaluates the properties of cyclic quadrilaterals?**

undefined. A) All sides are equal.

**undefined. B) Opposite angles sum to 180 degrees. ✓**

undefined. C) Diagonals are perpendicular.

undefined. D) All angles are right angles.

In cyclic quadrilaterals, opposite angles sum to 180 degrees.

**Which of the following statements best evaluates the properties of cyclic quadrilaterals?**

undefined. A) All sides are equal.

**undefined. B) Opposite angles sum to 180 degrees. ✓**

undefined. C) Diagonals are perpendicular.

undefined. D) All angles are right angles.

In cyclic quadrilaterals, opposite angles sum to 180 degrees.

**Imagine you need to design a circular garden with a path that is tangent to the circle at one point. Which of the following elements would you include in your design plan? (Select all that apply)**

undefined. **A) Calculate the radius of the garden. ✓**

undefined. **B) Determine the point of tangency. ✓**

undefined. C) Ensure the path is parallel to the radius.

undefined. D) Design the path to intersect the circle at two points.

You would include calculations for the radius, the point of tangency, and the design of the path.

**Imagine you need to design a circular garden with a path that is tangent to the circle at one point. Which of the following elements would you include in your design plan? (Select all that apply)**

undefined. **A) Calculate the radius of the garden. ✓**

undefined. **B) Determine the point of tangency. ✓**

undefined. C) Ensure the path is parallel to the radius.

undefined. D) Design the path to intersect the circle at two points.

You would include calculating the radius, determining the point of tangency, and ensuring the path is tangent to the circle.

**Imagine you need to design a circular garden with a path that is tangent to the circle at one point. Which of the following elements would you include in your design plan? (Select all that apply)**

undefined. **A) Calculate the radius of the garden. ✓**

undefined. **B) Determine the point of tangency. ✓**

undefined. C) Ensure the path is parallel to the radius.

undefined. D) Design the path to intersect the circle at two points.

You would need to calculate the radius, determine the point of tangency, and ensure the path is tangent.

**Propose a method to find the center of a given circle using only a compass and straightedge, and explain why your method works.**

**You can find the center by drawing two chords and finding their intersection.**

**Propose a method to find the center of a given circle using only a compass and straightedge, and explain why your method works.**

**You can find the center by drawing two chords and finding their intersection.**

**Propose a method to find the center of a given circle using only a compass and straightedge, and explain why your method works.**

**To find the center, draw two chords and find their intersection point, which will be the center of the circle.**