



## Constructing Tangent Lines

### Today's Standard

HSG.C.A4 - (+) Construct a tangent line from a point outside a given circle to the circle.

Cues	Notes
What is a tangent line?	A tangent line is a straight line that touches a circle at exactly one point.
How do you construct a tangent from a point outside a circle?	To construct a tangent from a point outside a circle, draw a line from the point to the circle's center, then draw a perpendicular line from the point where this line intersects the circle.
Why is the tangent line important in geometry?	Tangent lines are important for understanding properties of circles and for applications in various fields such as engineering and design.
What are common misconceptions about tangent lines?	Common misconceptions include thinking a tangent intersects the circle at more than one point and that any line through an exterior point and touching the circle is a tangent.
How can we apply tangent lines in real-world scenarios?	Real-world applications include designing circular gardens, engineering wheel systems, and plotting courses in navigation.

### Summary

A tangent line touches a circle at exactly one point. Constructing it involves drawing a perpendicular from the radius. Understanding tangents is crucial for advanced geometry and has practical applications.