### 6.7 Off on a Tangent

Practice Tasks
I. Concepts and Procedures


1. Construct the tangent lines from point $P$ to the circle given below.

2. Given points $A, B$, and $C$ so that $A B=A C$, construct a circle so that $\overline{A B}$ is tangent to the circle at $B$ and $\overline{A C}$ is tangent to the circle at $C$.

## II. Reasoning

1. Prove Thales' theorem: If $A, B$, and $P$ are points on a circle where $\overline{A B}$ is a diameter of the circle, then $\angle A P B$ is a right angle.
2. Prove the converse of Thales' theorem: If $\overline{A B}$ is a diameter of a circle and $P$ is a point so that $\angle A P B$ is a right angle, then $P$ lies on the circle for which $\overline{A B}$ is a diameter.
3. Prove that if segments from a point $P$ are tangent to a circle at points $A$ and $B$, then $\overline{P A}=\overline{P B}$.

