

Problems

Partial information is given about a triangle in each problem below. Solve for the remaining parts of the triangle, explain why a triangle does not exist, or explain why there is more than one possible triangle.

1. In $\triangle ABC$, $\angle A = 32^\circ$, $AB = 20$, and $BC = 12$.
2. In $\triangle XYZ$, $\angle Z = 84^\circ$, $XZ = 6$, and $YZ = 9$.
3. In $\triangle ABC$, $m\angle A = m\angle B = 45^\circ$, and $AB = 7$.
4. In $\triangle PQR$, $PQ = 15$, $\angle R = 28^\circ$, and $PR = 23$.
5. In $\triangle XYZ$, $\angle X = 59^\circ$, $XY = 18$, and $YZ = 10$.
6. In $\triangle PQR$, $\angle P = 54^\circ$, $\angle R = 36^\circ$, and $PQ = 6$.