

Analysis CP – Unit 2 Solving Triangles Review

For problems #1-6, assume angles A, B, and C are opposite sides a, b, and c in $\triangle ABC$

- Given $a = 5$, $b = 8$, and $C = 70^\circ$, find c .
- Given $c = 4$, $a = 6$, and $A = 50^\circ$, find C .
- Given $A = 31^\circ 20'$, $C = 65^\circ 50'$ and $c = 6$, find b .
- Given $b = 6$, $a = 3$, and $A = 64^\circ$, find the area of $\triangle ABC$.
- Given $c = 6$, $B = 61^\circ 40'$, and $A = 92^\circ 30'$, find the area of $\triangle ABC$.
- Determine the number of triangles that exists and state the reason why. Then solve the triangle. If no triangle exists, give the reason why not.
 - $B = 40^\circ$, $b = 30$, $c = 20$
 - $B = 140^\circ$, $c = 30$, $b = 20$
 - $C = 55^\circ 10'$, $b = 480$, $c = 428$
 - $A = 60^\circ$, $a = 1.5$, $b = 2$
 - $A = 30^\circ$, $B = 60^\circ$, $C = 90^\circ$
 - $a = 10$, $b = 4$, $c = 5$
- The measures of the sides of $\triangle ABC$ are in the ratio of 15:13:7. Find the measure of the largest angle.
- A triangular plot of ground has two sides 185' and 147' which intersect at an angle of $51^\circ 10'$. Find the length of the third side and the area of the plot.
- Three circles with radii of 115 ft, 150 ft, and 225 ft. are tangent to each other. Draw the triangle formed by their centers. Find the measure of the three angles and the area of the triangle.
- A plane flying due east at 100 m/s is also being blown due south at 40 m/s by a strong wind. Find the speed and bearing of the plane.
- In Washington D.C. the Lincoln Reflecting Pool is due West of the Washington Monument. A tourist at the top of the Washington Monument sites the front edge of the Pool at an angle of depression of 27° and sites the far edge of the pool at an angle of depression of 10° . If the Pool is 2030 feet long, about how high is the Washington Monument?

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