

1. _____ (in terms of π)

2. _____ (common fraction)

3. _____ (in terms of π)

4. _____ (common fraction)

5. _____

6. _____

7. _____ (simplest radical form)

8. _____ (in terms of π)

9. Let $ABCD$ be a quadrilateral inscribed in a circle (with the vertices in that order), and suppose that $\angle BAD = 66^\circ$, $\angle CDB = 23^\circ$, and $\angle BDA = 61^\circ$. If E is the intersection of diagonals \overline{AC} and \overline{BD} , calculate $\angle AED$ in degrees.

10. Let ABC be a triangle with $AB = 13$, $BC = 14$, and $CA = 15$. Point I is the center of the (inscribed) circle tangent to all three sides of ABC . Compute CI , expressing your answer in simplest radical form.

1. 8π

2. $9/4$

3. 17π

4. $1/72$ (*MATHCOUNTS 2013: Chapter Sprint*)

5. 3

6. 6 (*MATHCOUNTS 2013: National Sprint*)

7. $16 + 2\sqrt{3}$

8. 5π

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10. Let ABC be a triangle with $AB = 13$, $BC = 14$, and $CA = 15$. Point I is the center of the (inscribed) circle tangent to all three sides of ABC . Compute CI , expressing your answer in simplest radical form. $4\sqrt{5}$