

1. A regular pentagon is inscribed in a circle of radius 4 in. Find the area of the pentagon.

1.) _____

2. Observers at points A and B, 30 km apart, sight an airplane between them at angles of elevation of 40° and 75° , respectively. How far is the plane from each observer?

2.) _____

3. Two hikers follow a trail that splits into two forks. Each hiker takes a different fork. The forks diverge at an angle of 67° and both hikers walk at a speed of 3.5 mph. How far apart are the hikers after 1 hour?

3.) _____

4. After leaving an airport, a plane flies for 1.5 hours at a speed of 200 km/h on a course of 200° . Then, on a course of 340° , the plane flies for 2 hours at a speed of 250 km/h. At this time, how far from the airport is the plane?

4.) _____

5. An airplane flies on a course of 130° at a speed of 1100 km/h. How far east of its starting point is it after 3 hours?

5.) _____

6. One angle of an isosceles triangle has a measure of 150° . If the area of the triangle is 9 cm^2 , what is the perimeter of the triangle?

6.) _____

7. A ship leaves port and proceeds west 30 miles. It then changes course to 020° until it is due north of its origin. How far north of its origin is it?

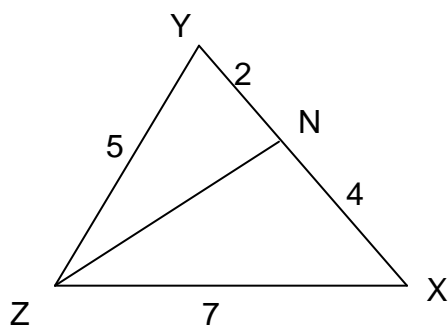
7.) _____

8. The area of $\triangle ABC$ is 45 square units. If $a = 10$ and $b = 15$, find the measure of angle C to the nearest degree.

8.) _____

9. Given the diagram below, find ZN to the nearest whole unit.

9.) _____



Answers:

1.	38.0 in ²	2.	32.0 km from A and 21.3 km from B	3.	3.86 miles
4.	332 km	5.	2527.9 km	6.	23.6 cm
7.	82.4 miles	8.	37° or 143°	9.	5