LESSON 13-6
The Law of Cosines

Use the given measurements to solve each triangle. Round to the nearest tenth.

1. \[ \triangle MNL \]
   - \[ M = 14 \]
   - \[ N = 94^\circ \]
   - \[ L = 8 \]

2. \[ \triangle MNL \]
   - \[ M = 13 \]
   - \[ N = 36 \]
   - \[ L = 3 \]

3. \[ \triangle MNL \]
   - \[ M = 69 \]
   - \[ N = 24 \]
   - \[ L = 29 \]

4. \[ \triangle MNL \]
   - \[ M = 11 \]
   - \[ N = 17 \]
   - \[ L = 14 \]

5. \[ \triangle MNL \]
   - \[ M = 64 \]
   - \[ N = 31 \]
   - \[ L = 37^\circ \]

6. \[ \triangle MNL \]
   - \[ M = 70 \]
   - \[ N = 38 \]
   - \[ L = 40 \]

7. \[ \triangle MNL \]
   - \[ M = 12 \]
   - \[ N = 7 \]
   - \[ L = 15 \]

8. \[ \triangle MNL \]
   - \[ M = 29 \]
   - \[ N = 23 \]
   - \[ L = 18 \]

9. \[ \triangle MNL \]
   - \[ M = 12 \]
   - \[ N = 14 \]
   - \[ L = 13 \]

Solve.

10. A postal airplane leaves Island A and flies 91 miles to Island B. It drops off and picks up mail and flies 63 miles to Island C. After unloading and loading mail, the plane returns to Island A at an average rate of 300 miles per hour. How long does it take the pilot to travel from Island C to Island A?

11. A statue is erected on a triangular marble base. The lengths of the sides of the triangle are 12 feet, 16 feet, and 18 feet. What is the area of the region at the base of the statue?