## Precalculus 6.4 Homework

Name $\qquad$ Date $\qquad$ Per $\qquad$

Solve each triangle. Round approximate answers to the nearest tenth.
1.

2.


Draw and label a triangle with the given parts. Then solve the triangle. Round approximate answers to the nearest tenth.
3. $\alpha=10.6^{\circ}, \gamma=137.3^{\circ}, c=45.9$
4. $\quad \beta=119.8^{\circ}, \gamma=16.2^{\circ}, a=154.7$

Determine the number of triangles with the given parts. If it is possible to draw one or more triangles with the given parts, solve them. Round approximate answers to the nearest tenth.
5. $\alpha=37.4^{\circ}, b=21.5, a=8.7$
6. $\beta=43.1^{\circ}, c=6.8, b=7.9$
7. $\gamma=132.2^{\circ}, a=14.6, c=28.3$
8. $\beta=117.9^{\circ}, b=9.5, a=13.6$
9. $\gamma=25.3^{\circ}, c=47.5, b=71.0$
10. $\alpha=64.8^{\circ}, c=3.1, a=7.3$

## Solve each problem.

11. A traffic report helicopter left the radio studios on a course with a bearing of $220^{\circ}$. After flying 15 miles to reach the freeway, the helicopter flew due east along the freeway for some time. Then the helicopter headed back to the radio station on a course with a bearing of $315^{\circ}$. For how many miles did the helicopter fly along the freeway? Round to the nearest tenth of a mile.
12. A surveyor locating the corners of a triangular piece of property started at one corner and walked 510 ft in the direction $\mathrm{N} 23^{\circ} \mathrm{W}$ to reach the next corner. The surveyor turned and walked $\mathrm{S} 37^{\circ} \mathrm{W}$ to get to the next corner of the property. Finally, the surveyor walked in the direction $\mathrm{N} 75^{\circ} \mathrm{E}$ to get back to the starting point. What is the perimeter of the property to the nearest tenth of a foot?
13. The angle of elevation of the top of a building from a point on the ground is $31.8^{\circ}$. From a point on the ground that is 57.1 feet further from the base of the building, the angle of elevation is $20.1^{\circ}$. What is the height of the building to the nearest tenth of a foot?
