1) Find $x$ in the triangle below, giving your answer to 3 significant figures. [1]

2) Find $x$ in the triangle below, giving your answer to 3 significant figures. [1]
3) Find $x$ in the triangle below, giving your answer to 3 significant figures. [1]

4) Find $x$ in the triangle below, rounding your answer to 1 decimal place. [1]

5) Find the size of angle $x$, giving your answer to 1 decimal place. [1]
6) The path of a satellite orbiting the earth causes it to pass directly over two tracking stations A and B, which are 62 miles apart. When the satellite is on one side of the two stations, the angles of elevation at A and B are measured to be 87.8° and 83.6°, respectively. Find how far the satellite is from station A and how high the satellite is above the ground. Round your answers to 2 decimal places.

7) Find \( x \) in the triangle below, giving your answer to 3 significant figures.

8) Find \( x \) in the triangle below, giving your answer to 3 significant figures.
9) Points $A$ and $B$ are separated by a building. To find the distance between them, a surveyor locates a point $C$ such that angle $\angle CAB = 51.6^\circ$. The distance $AC = 382$ m and $BC = 549$ m. Find the distance from $A$ to $B$, giving your answer to 3 significant figures.

10) Find the area of the triangle below, giving your answer to 3 significant figures.

11) The area of triangle $ABC$ is $260$ cm$^2$. Find the length of $x$, giving your answer to 3 significant figures.
12) The area of triangle ABC is $180 \text{ cm}^2$. Find the size of angle $x$, giving your answer to 3 significant figures.

13) The area of triangle ABC is $122 \text{ cm}^2$.
Find the perimeter of triangle ABC, giving your answer to 3 significant figures.
Solutions for the assessment Sine Rule, Cosine Rule and Area Rule

1) \( x = 23.1 \) cm
2) \( x = 13.1^\circ \)

3) \( x = 12.6 \) cm
4) \( x = 69.1^\circ \)

5) acute angle \( x = 27.2^\circ \), obtuse angle \( x = 152.8^\circ \)
6) Distance = 841.28 miles, Height = 840.66 miles

7) \( x = 29.6 \) cm
8) \( x = 77.3^\circ \)

9) Distance = 432 m
10) Area = 227 \( \text{cm}^2 \)

11) \( x = 25.7 \) cm
12) \( x = 64.2^\circ \)

13) Perimeter = 56.7 cm