Name:
Group 1
Result:

1. *(3 points)*
Consider a triangle ABC with $AB = 5\ cm$ and $AC = 7\ cm$. Given that the area of the triangle is $10\ cm^2$, find $\sin \alpha$ and hence find two possible values of BC.

2. *(3 points)*

Tomasz and Maria both start at point A. Tomasz walks 5 km on a bearing of 325, Maria walks 4 km on a bearing of 070. Find the distance between Tomasz and Maria and the bearing of Maria from Tomasz.

3. $\hspace{8cm}$ *(5 points)*

Consider a triangle ABC with $AB = 10$ *cm*, $AC = 7$ *cm* and $\angle BAC = 40°$. Point D is on BC such that $BD : DC = 1 : 3$. Find the length of AD.

4. *(5 points)*

The bearing of a tower from points A and B are 345 and 030 respectively. Angles of elevation from points A and B to the top of the tower are $5°$ and $4°$ respectively. Point B is 600 metres West of point A. Find the height of the tower.