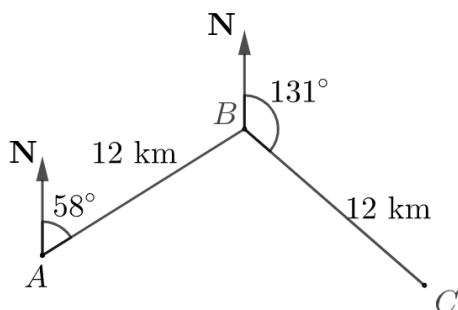


## Question 1

The diagram shows the position of three towns,  $A$ ,  $B$ , and  $C$ .  
Find the bearing of  $C$  from  $A$  to the nearest degree.



## Question 2

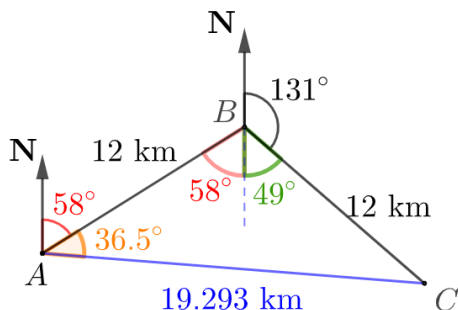
$$f(x) = \frac{x}{6} \text{ and } g(x) = 6x^2 - 18$$

Find  $gf(x)$ , giving your answer in the form  $ax^n + b$

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## Question 1

The diagram shows the position of three towns,  $A$ ,  $B$ , and  $C$ .  
Find the bearing of  $C$  from  $A$  to the nearest degree.



$$\angle ABC = 58^\circ + 49^\circ = 107^\circ$$

Using the cosine rule, we find length  $AC = 19.293$  km

Using the sine rule, we find  $\angle CAB = 36^\circ$  to the nearest degree.

The bearing of  $C$  from  $A$  is therefore  $58^\circ + 36^\circ = 094^\circ$

## Question 2

$$f(x) = \frac{x}{6} \text{ and } g(x) = 6x^2 - 18$$

Find  $gf(x)$ , giving your answer in the form  $ax^n + b$

$$\begin{aligned} gf(x) &= 6\left(\frac{x}{6}\right)^2 - 18 \\ &= 6\left(\frac{x^2}{36}\right) - 18 \\ &= \frac{1}{6}x^2 - 18 \end{aligned}$$


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