



The diagram shows triangle  $ABC$  where  $AB = 5$  cm,  $AC = 4$  cm and  $BC = 3$  cm. Three circles with centres at  $A$ ,  $B$  and  $C$  have radii 3 cm, 2 cm and 1 cm respectively. The circles touch each other at points  $E$ ,  $F$  and  $G$ , lying on  $AB$ ,  $AC$  and  $BC$  respectively. Find the area of the shaded region  $EFG$ .

[7]