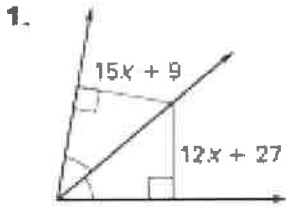
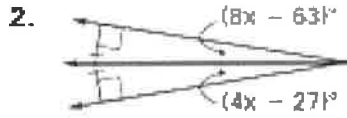


Find the value of  $x$ .

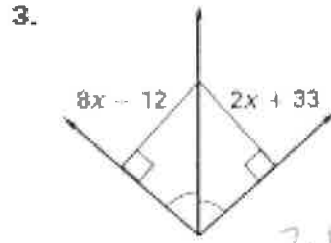


$$15x + 9 = 12x + 27$$

$$x = 6$$

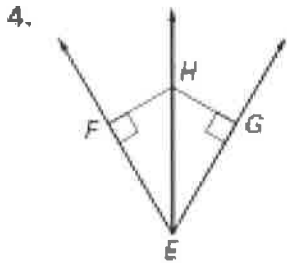


9

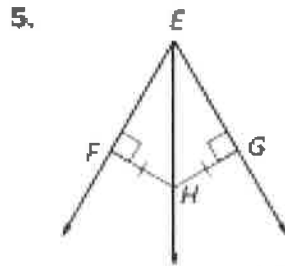


7.5

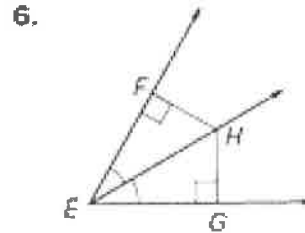
Can you conclude that  $\overline{EH}$  bisects  $\angle FEG$ ? Explain.



NO

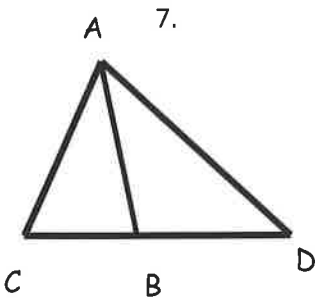


Yes  $\overline{EH} = \overline{HG}$   
So  $H$  is equidistant  
from both sides



Yes

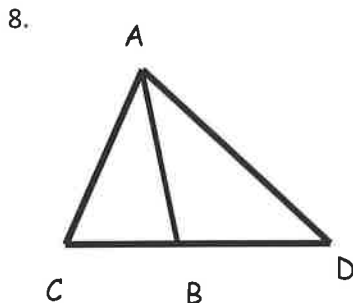
$\overline{AB}$  is an angle bisector. Find the value of  $x$ .



$$\begin{aligned} \angle CAB &= 3x + 5 \\ \angle DAB &= 4x + 1 \end{aligned}$$

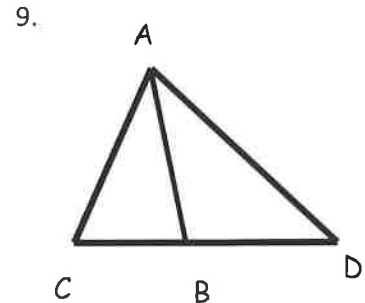
$$3x + 5 = 4x + 1$$

$$x = 4$$



$$\begin{aligned} \angle CAB &= 8x - 16 \\ \angle DAB &= 4x + 20 \end{aligned}$$

$$x = 9$$



$$\begin{aligned} \angle CAB &= 2x + 10 \\ \angle DAC &= 6x - 36 \end{aligned}$$

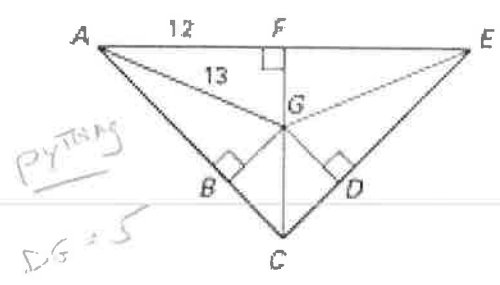
$$2(2x + 10) = 6x - 36$$

$$x = 28$$

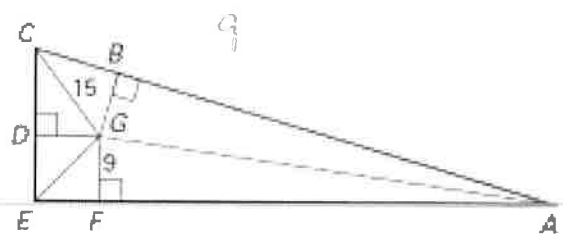
Find the indicated measure given that point  $G$  is the incenter of  $\triangle ACE$ .

10. Find  $DG$ .  $GF = GD = GS$

11. Find  $BG$ .



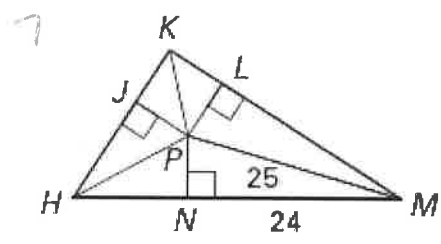
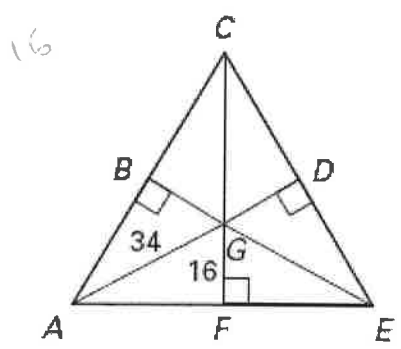
PYTHAG  
 $DG = 5$



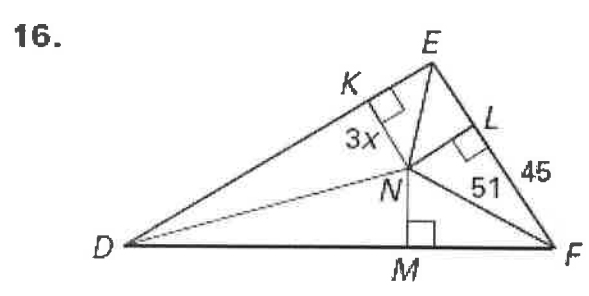
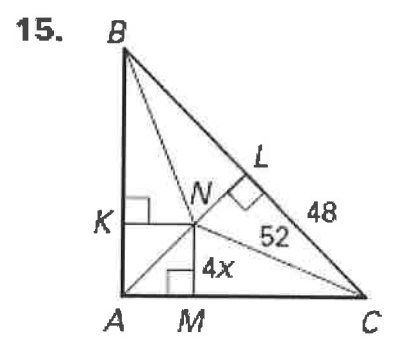
Find the indicated measure.

13. Point  $G$  is the incenter of  $\triangle ACE$ . Find  $BG$ .

14. Point  $P$  is the incenter of  $\triangle HKM$ . Find  $JP$ .



Find the value of  $x$  that makes  $N$  the incenter of the triangle.



PYTHAG  
 $NL = 20$   
 $4x = 20$   
 $x = 5$

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