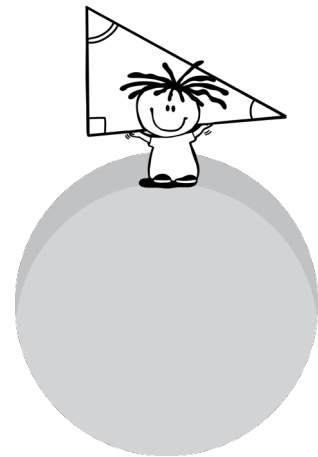
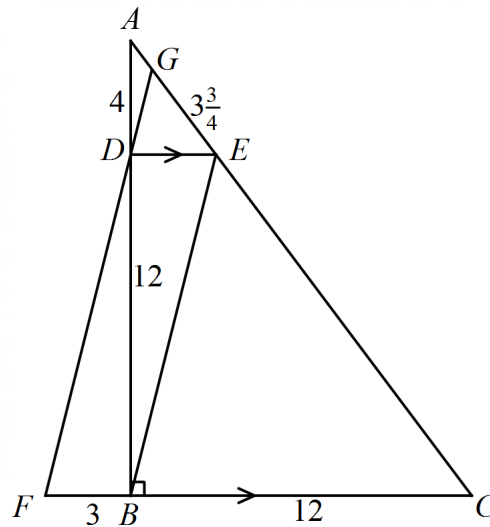




Question 3

In the figure, $\triangle ABC$ is right-angled at B . The point D lies on AB and the point E lies on AC such that $DE \parallel BC$. CB is produced to F . FD is drawn and produced to G , a point on AC .

$BC = DB = 12$ units, $AD = 4$ units, $FB = 3$ units and $GE = 3\frac{3}{4}$ units.



Prove that $FG \parallel BE$.

Memo

$AC = 20$ (Pythag) $\frac{EC}{20} = \frac{12}{16}$ (prop thm; $DE \parallel BC$) $\therefore EC = 15$ $\frac{CB}{BF} = \frac{12}{3} = 4$ $\frac{CE}{EG} = \frac{15}{3\frac{3}{4}} = 4$ $\therefore \frac{CB}{BF} = \frac{CE}{EG}$ $\therefore FG \parallel BE$ (conv prop thm)	$\checkmark AC = 20$ $\checkmark$ S/R $\checkmark EC = 15$ $\checkmark$ ratio $\checkmark$ ratio $\checkmark$ equating fractions $\checkmark$ R (7)
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