

TRY This

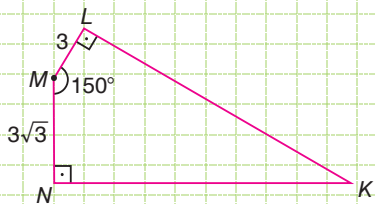
In the figure,

$$MN \perp NK, ML \perp LK,$$

$$MN = 3\sqrt{3}, ML = 3, \text{ and}$$

$$m\angle M = 150^\circ.$$

Find KL .



My Notes

Example 3.9

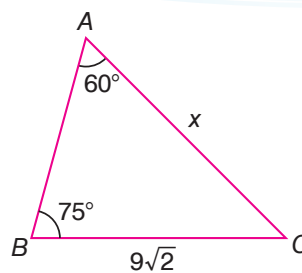
In the figure,

$$BC = 9\sqrt{2},$$

$$AC = x,$$

$$m\angle A = 60^\circ, \text{ and } m\angle B = 75^\circ.$$

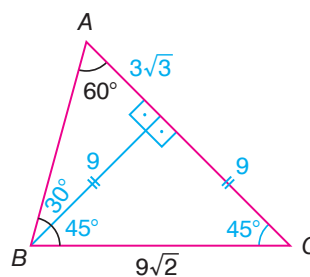
Find the value of x .



Solution 3.9

We can create two special triangles by drawing the altitude from B to AC . (See diagram)

$$\text{Therefore, } x = 9 + 3\sqrt{3}.$$



Example 3.10

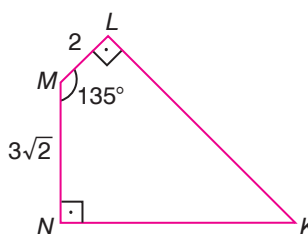
In the figure, $MN \perp NK, ML \perp LK,$

$$MN = 3\sqrt{2},$$

$$ML = 2, \text{ and}$$

$$m\angle M = 135^\circ.$$

Find the length of KL .



Solution 3.10

From $45^\circ-45^\circ-90^\circ$ triangle,

$$m\angle TML = m\angle LTM = 45^\circ,$$

$$TK = 5\sqrt{2} \cdot \sqrt{2} = 10,$$

$$KL = 10 - 2 = 8.$$

