In the diagram, JK:KL is 3:2 and JL = 35. Find JK and KL

Solution:

Let $KL = x$. Then

$$\frac{JK}{x} = \frac{3}{2}$$

and

$$JK = \frac{3}{2}x.$$

So we have

$$JK + KL = JL,$$

$$\frac{3}{2}x + x = 35,$$

$$\left(\frac{3}{2} + 1\right)x = 35,$$

$$\frac{5}{2}x = 35,$$

$$x = 35 \cdot \frac{2}{5},$$

$$x = 14.$$

Finally

$$KL = 14, JK = \frac{3}{2}x = \frac{3}{2} \cdot 14 = 21.$$

Answer:

$$KL = 14, JK = 21.$$