Question 2. In triangle XYZ, P is the midpoint of side XZ and Q is a point on side XY such that QZ bisects PY. If XQ = 24 cm, then what is the length (in cm) of QY?

Solution. Let D be the midpoint of QZ
So, according to the Midpoint theorem,
$\mathrm{PD/XQ} = 1/2$
So, $PD = 12$ cm
Now, $PD \| XQ$,

$\angle \mathrm{QYO} = \angle \mathrm{OPD}$
$\angle QOY = \angle DOP$
$\angle QYO = \angle OPD$
$\angle \mathrm{YQO} = \angle \mathrm{ODP}$
$PO = YO$
So, $\triangle \mathrm{POD} \cong \triangle \mathrm{QOY}$
So, $QY = PD = 12$ cm
$\therefore$ The length (in cm) of QY is 12 cm