## Measuring Short Time Intervals

If the time-base is $10 \mathrm{~ms} /$ division and if the separation between pulses is $t$ divisions then time interval is 10 t ms


## Measuring Short Time Intervals



## Lissajous' Figures

- Lissajous' figure can be displayed by applying two a.c. signals simultaneously to the X-plates and Y-plates of an oscilloscope.
- As the frequency, amplitude and phase difference are altered, different patterns are seen on the screen of the CRO.


## Lissajous' Figures

## Same amplitude but different frequencies


$\mathrm{f}_{\mathrm{y}}=1 / \mathbf{3} \mathrm{f}_{\mathrm{x}}$

$\mathrm{f}_{\mathrm{y}}=\mathbf{3 / 2} \mathrm{f}_{\mathrm{x}}$

$\mathrm{f}_{\mathrm{y}}=2 / 3 \mathrm{f}_{\mathrm{X}}$
$f_{y}=5 / 2 f_{x}$

