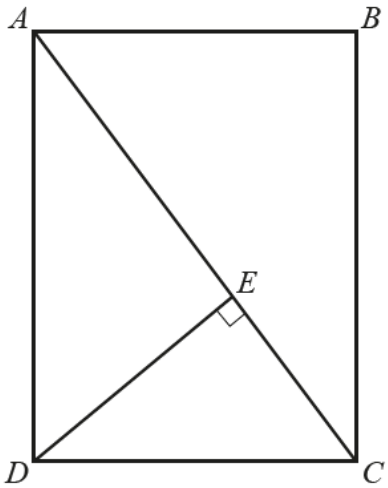
Similarity and congruence – 2021 O Level Mat

1. Nov/2021/Paper_12/No.12



NOT TO SCALE

The diagram shows a rectangle $ABCD$.
E is a point on the diagonal AC such that $D\hat{E}C = 90°$.

Prove that triangle ADC is similar to triangle DEC.
Give a reason for each statement you make.

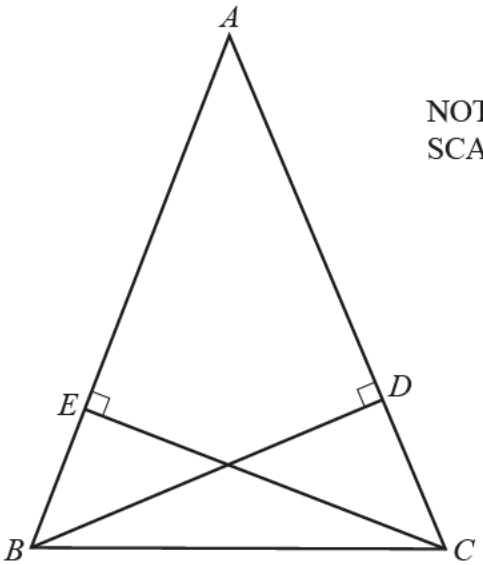
.....

.....

.....

..... [3]

2. June/2021/Paper_11/No.17



NOT TO SCALE

The diagram shows an isosceles triangle ABC where $AB = AC$.
D is a point on AC such that angle $ADB = 90°$.
E is a point on AB such that angle $AEC = 90°$.

Show that triangles ADB and AEC are congruent.
Give a reason for each statement you make.

.....

.....

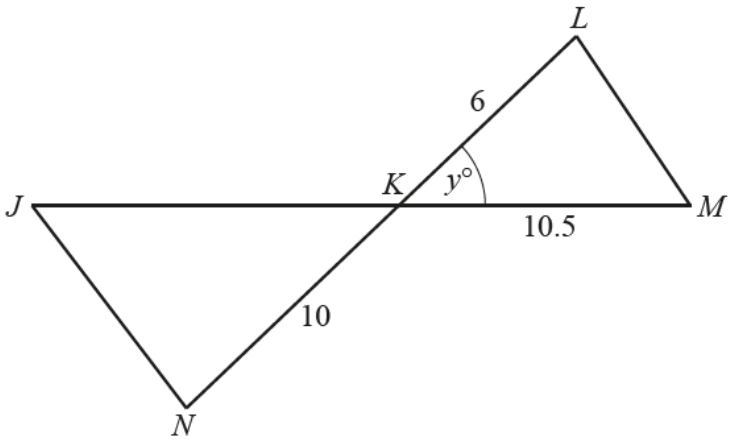
.....

.....

..... [3]

3. June/2021/Paper_21/No.8b

(b)



NOT TO SCALE

Triangle KLM is similar to triangle KNJ.
JKM and NKL are straight lines.

$K\hat{L}M = K\hat{N}J$ and $L\hat{K}M = y°$.
$KL = 6$ cm, $KM = 10.5$ cm and $KN = 10$ cm.
The area of triangle JKN is 75 cm^2.

Calculate y.

$y =$ ..... [5]