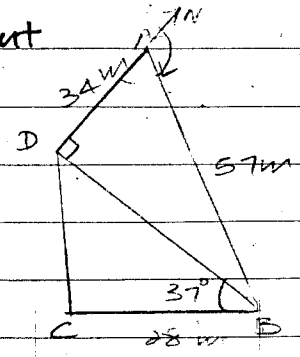
Rusana Banu (26) 4C1 Date 26/2/04 No. 26

Maths D Weekend Assignment



Week 8

1)(i) $\cos \angle BAD = \frac{34}{57}$

$\angle BAD = 53.381°$

$\approx 53.4°$

(ii) Bearing of B from A $= 180° - 53.4°$

$= 126.6°$

(iii) $DB = \sqrt{57^2 - 34^2}$

$= 45.749 m$

Area of $\triangle BCD$

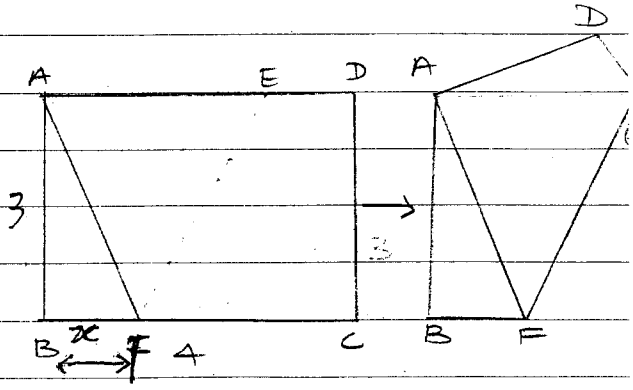
$= \frac{1}{2}(28)(45.749)\sin 37°$

$\approx 385 m^2$

(iv) $CD^2 = (28)^2 + (45.749)^2 - 2(28)(45.749)\cos 37°$

$CD = 28.826 m$

$\approx 28.8 m$



(2) Let $BF = x$

$AF = \sqrt{3^2 + x^2}$

$FC = 4 - x$

$AF = FC$

$\sqrt{3^2 + x^2} = 4 - x$

$9 + x^2 = 16 - 8x + x^2$

$8x = 7$

$x = \frac{7}{8}$

$\Rightarrow BF = \frac{7}{8} cm$

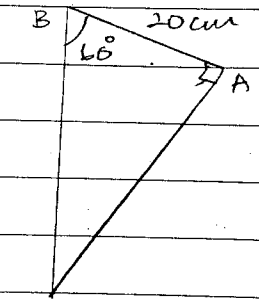
28/2 Gen

Date No.

3)(a) (i) $\tan 60° = \frac{AC}{20}$

$AC = 34.641\text{cm}$

$\approx 34.6\text{cm}$

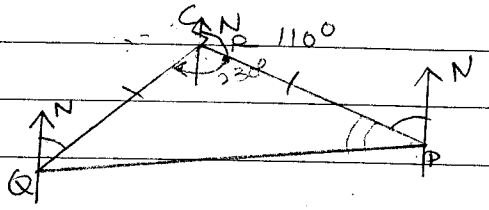


(ii) $\cos 60° = \frac{AB}{AC}$

$AC = 40\text{cm}$

4)(a) $\angle QRP = 230° - 110°$

$= 120°$



(b) $\angle CQN = 360° - 230°$

$= 130°$

Bearing of R from Q

$= 180° - 130°$

$= 050°$

(c) $\angle RPN$

$= 180° - 110°$

$= 70°$

$\angle RPQ = (180° - 120°) \div 2$

$= 30°$

Bearing of Q from P

$= 360° - 30° - 70°$

$= 260°$

TRANSFORMATION

TYS Unit 10 P1

Pg 186

Qn 3)

Translation

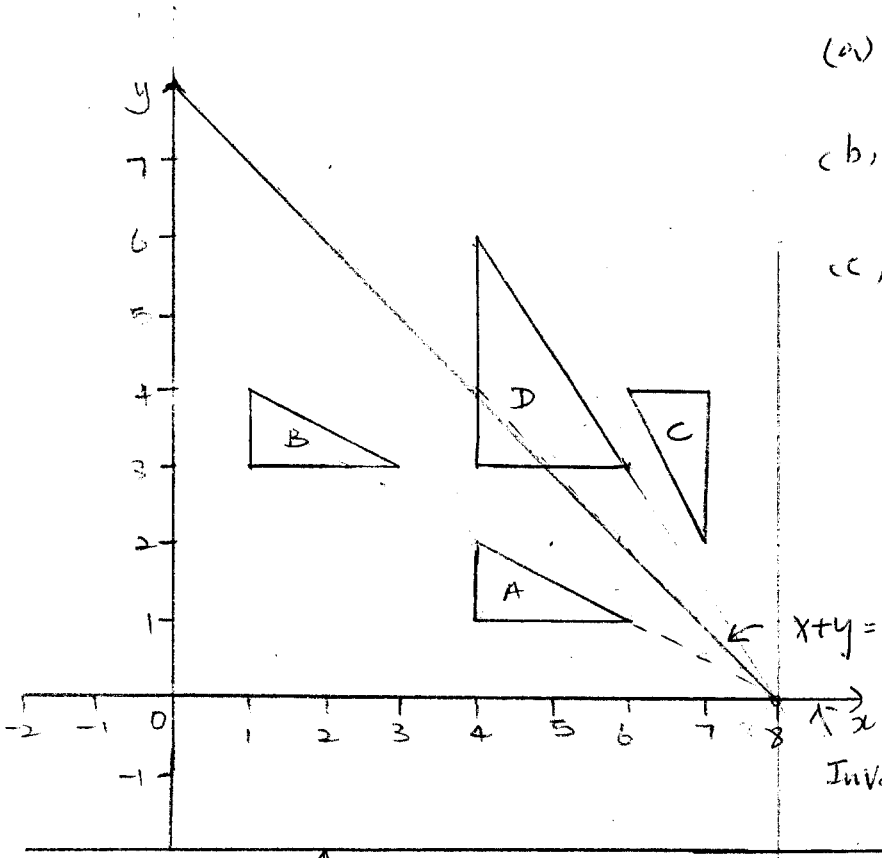
$\triangle A \rightarrow \triangle B$

(a) Column vector $= \begin{pmatrix} -3 \\ 2 \end{pmatrix}$

(b) $x + y = 8$

(c) A stretch // to the y-axis with x-axis as the invariant line

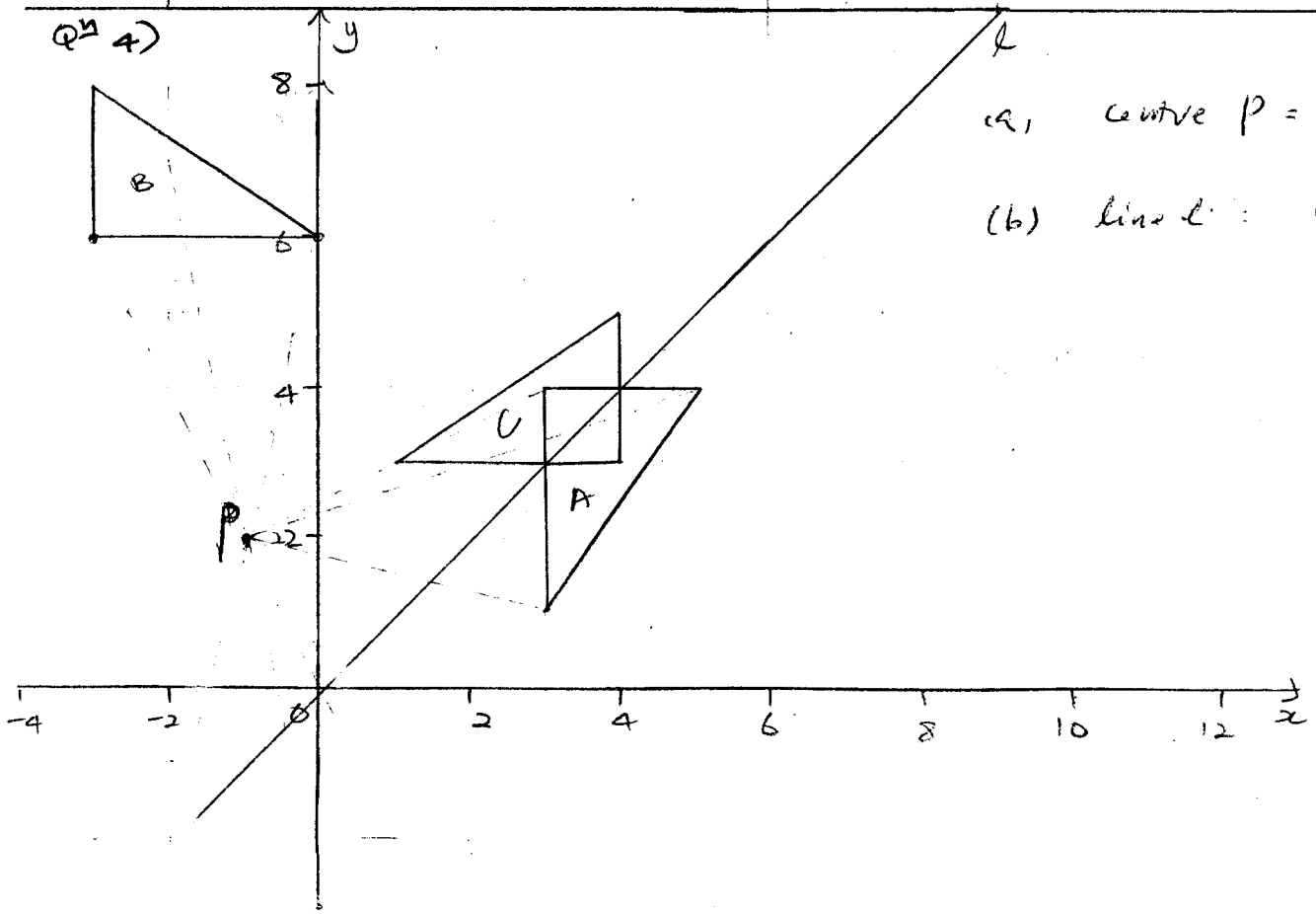
factor $= 3$



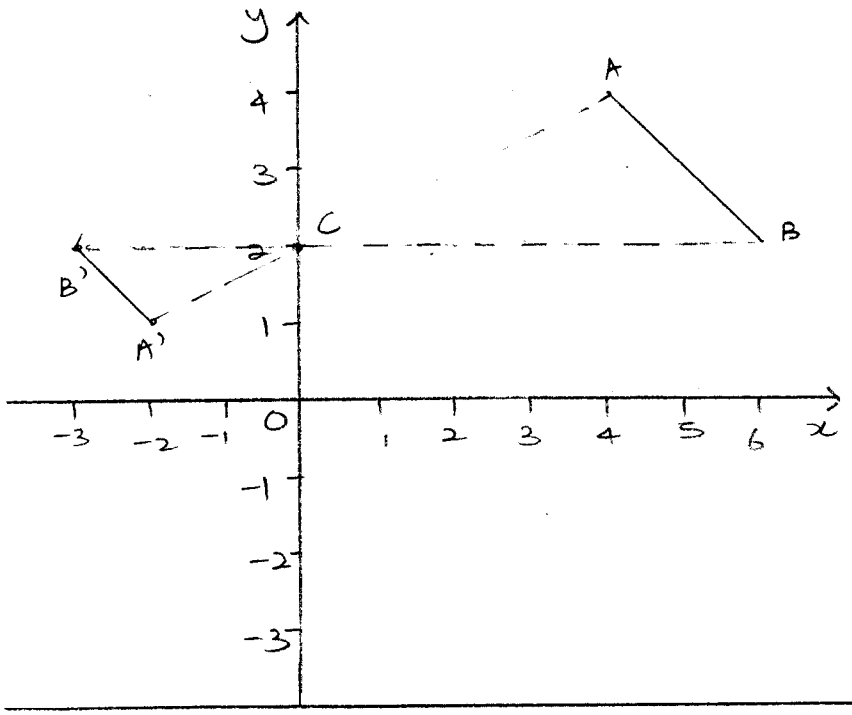
Qn 4)

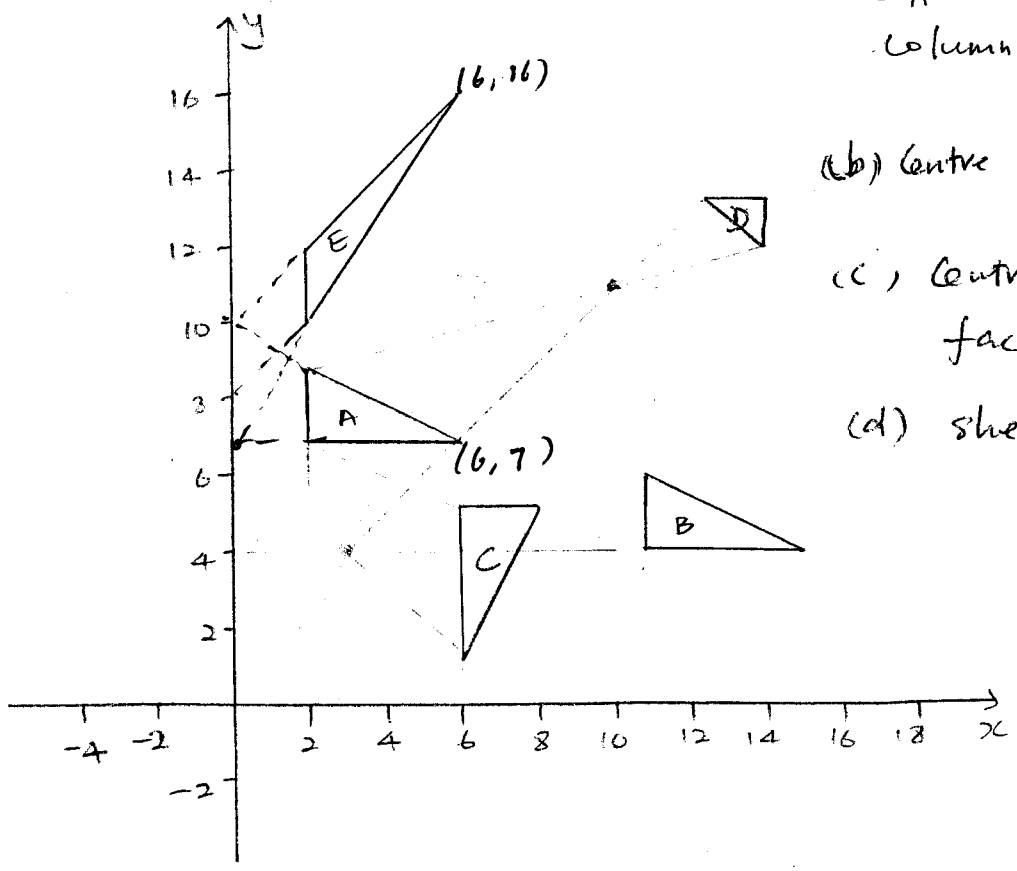
(a) centre $P = (-1, 2)$

(b) line l : $y = x$



(Qn 5)





(a) $\triangle A \rightarrow \triangle B$ Translation,
Column Vector $= \begin{pmatrix} 9 \\ -3 \end{pmatrix}$

(b) Centre of rotation $= (3, 4)$

(c) Centre of Enlargement $= (10, 11)$
factor $= -\frac{1}{2}$

(d) shear factor $= \frac{9}{6} = \frac{3}{2}$