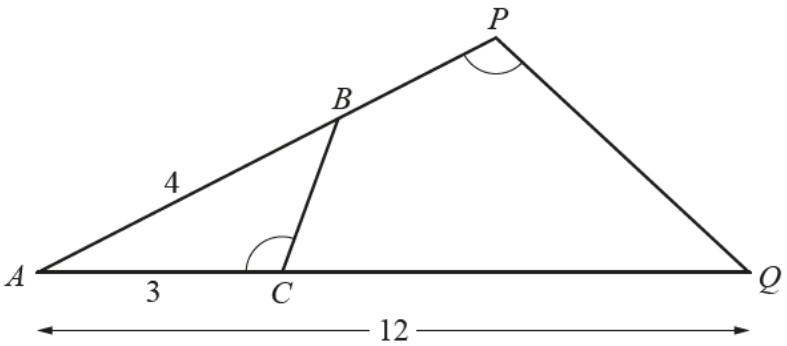
Similarity and congruence – 2020 O Level Math D

1. Nov/2020/Paper_11/No.25



NOT TO SCALE

In the diagram, ABP and ACQ are straight lines.

$A\hat{C}B = A\hat{P}Q$.

(a) Show that triangle ABC is similar to triangle AQP.
Give a reason for each statement you make.

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..... [2]

(b) $AB = 4$ cm, $AC = 3$ cm and $AQ = 12$ cm.

Calculate AP.

$AP =$ ..... cm [2]

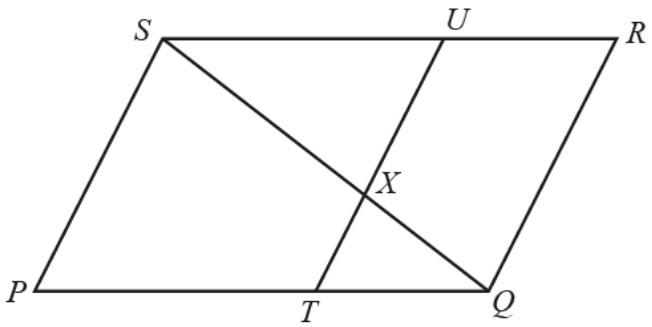
(c) The area of triangle ABC is x cm^2.

Find an expression, in terms of x, for the area of quadrilateral $BPQC$.

..... cm^2 [1]

2. Nov/2020/Paper_22/No.7b

(b)



NOT TO SCALE

$PQRS$ is a parallelogram.
TU and SQ intersect at X and TU is parallel to QR.
$\frac{TQ}{PT} = \frac{UR}{SU} = \frac{1}{2}$.

(i) Show that triangle PQS is similar to triangle TQX.
Give a reason for each statement you make.

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..... [3]

(ii) Find the ratio $SX : SQ$.

..... : ..... [1]

(iii) Find the ratio area of triangle TQX : area of parallelogram $PQRS$.

..... : ..... [2]