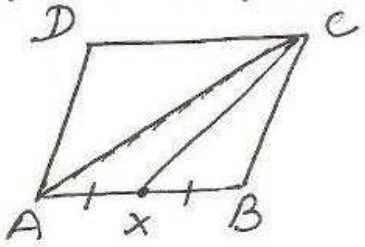
1.



$ar(\square AXCD) = ar(\triangle ADC) + ar(\triangle AXC)$

$24 = ar(\triangle ADC) + \frac{1}{2} ar(\triangle ABC)$

$24 = ar(\triangle ABC) + \frac{1}{2} ar(\triangle ABC)$

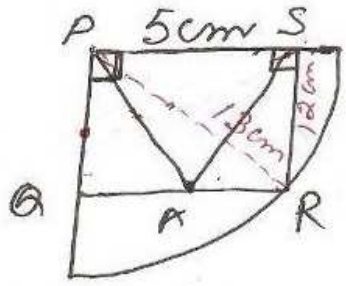
$\frac{3}{2} ar(\triangle ABC) = 24$

$\Rightarrow ar(\triangle ABC) = \frac{24 \times 2}{3}$

$= 16 \text{ cm}^2$

False

(2)



In rt $\triangle PSR$

$SR^2 = PR^2 - PS^2$

$= 13^2 - 5^2$

$= 169 - 25$

$= 144$

$\Rightarrow SR = \sqrt{144}$

$= 12 \text{ cm}$

$ar(\text{rect } PQRS) = lb$

$= 12 \times 5$

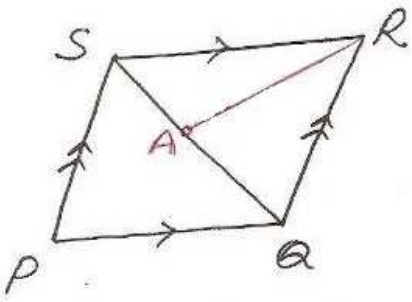
$= 60 \text{ cm}^2$

$ar(\triangle PSA) = \frac{1}{2} ar(PQRS)$

$= \frac{1}{2} \times 60$

$= 30 \text{ cm}^2$

(3)



(diagonal divides a ||gm into 2 $\triangle$s equal in area)

$\therefore ar(\triangle QRS) = \frac{1}{2} \times 180$

$= 90 \text{ cm}^2$

$\because ar(\triangle ASR) < ar(\triangle QRS)$

$\therefore ar(\triangle ASR) < 90°$

False