

BOARD OF INTERMEDIATE & SECONDARY EDUCATION, SAHRAWAL

SUBJECT: MATH EXAM 2nd Annual 2022 CLASS: Inter P-I

GROUP: I DATE: 21-12-22

(GENERAL INSTRUCTIONS FOR MARKING KEY)

(i) $S = \frac{a+b+c}{2} = \frac{18+24+30}{2}$

$S = 36$

From Hero Formula

$\Delta = \sqrt{S(S-a)(S-b)(S-c)}$ (1M)

$\Delta = \sqrt{36(18)(12)(6)}$ (1M)

$= 216 \text{ Sq. unit}$

(X) R.H.S

$S \tan \frac{\alpha}{2}$

$= S \cdot \sqrt{\frac{(S-b)(S-c)}{S(S-a)}}$ (1M)

$= S \cdot \sqrt{\frac{S(S-a)(S-b)(S-c)}{S^2(S-a)^2}}$

$= S \frac{\Delta}{S(S-a)}$

$= \frac{\Delta}{S-a} = r_1 = 41.5$ (1M)

(xii) Let $\sin^{-1} x = t$

where $-\frac{\pi}{2} \leq t \leq \frac{\pi}{2}$

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میرزا علی (انٹرمیڈیٹ اور سیکنڈری) اور میرزا علی (انٹرمیڈیٹ اور سیکنڈری) کے حوالے سے مکمل طور پر تفتیش کر لی ہے۔ کسی قسم کی کوئی غلطی نہیں ہے۔

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$\Rightarrow \sin t = x$ (1M)

$\cos(\sin^{-1} x) = \cos t$

$= \sqrt{1 - \sin^2 t}$

$= \sqrt{1 - x^2}$ (1M)

(xii) $\sin x = \frac{1}{2}$

Reference angle = $\pi/6$ rad

The value of $\sin x$ is positive in Ist and IInd quadrant

$x = \frac{\pi}{6}$; $x = \frac{5\pi}{6}$ (1M)

The solution set is

$\left\{ \frac{\pi}{6} + 2n\pi \right\} \cup \left\{ \frac{5\pi}{6} + 2n\pi \right\}$ (1M)

(xiii) Correct def. (2M)