

北一女中 103 學年度《數戰數決》有獎徵答活動

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題號：3-6 頁碼/總頁數：6/6 (如果只有一頁，可不填)

$$\because \angle PAB = \angle BCA, \angle CAQ = \angle ABC \therefore \triangle AQC \sim \triangle BPA$$

$$\angle AQP = \angle APQ \Rightarrow AQ = AP = QN = PM \quad \frac{QC}{AP} = \frac{AQ}{BP} \Rightarrow \frac{QC}{PM} = \frac{QN}{BP} \quad \angle NQC = \angle MPB$$

$$\therefore \triangle NQC \sim \triangle BPM \therefore \angle BMA = \angle BCN$$

$$\angle APB + \angle PBA + \angle BAP = 180^\circ = \angle BAC + \angle PBA + \angle ACB \quad \angle BAP = \angle ACB \Rightarrow \angle APB = \angle BAC$$

$$\angle APB = \angle CBM + \angle BMA = \angle CBM + \angle BCN = \angle BAC$$

$$\angle ABS + \angle ACS = \angle ABC + \angle ACB + \angle CBM + \angle BCN = \angle ABC + \angle ACB + \angle BAC = 180^\circ$$

\Rightarrow A、B、S、C 四點共圓，故得證

