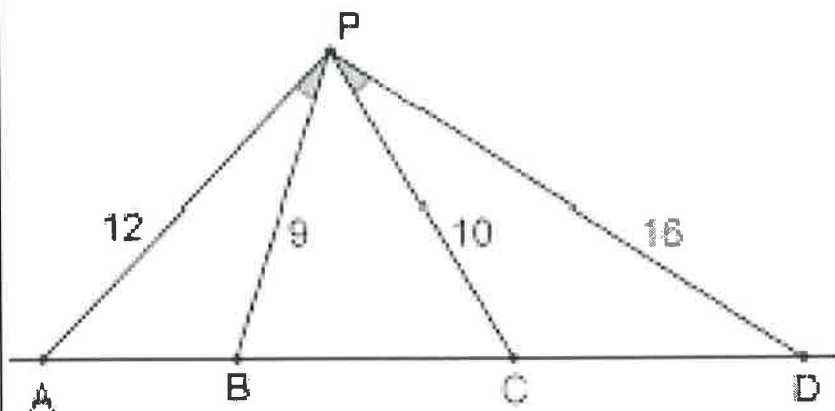


北一女中 103 學年度《數戰數決》有獎徵答活動

班別： 三 年 義 班 座號： 15 號 姓名： 柯宜妤

題號： 5-5 頁碼/總頁數： _____ (如果只有一頁，可不填)

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$$\frac{\Delta ABP}{\Delta CDP} = \frac{\overline{AB}}{\overline{CD}} = \frac{\frac{1}{2} \times 12 \times 9 \times \sin \angle APB}{\frac{1}{2} \times 16 \times 10 \times \sin \angle CPD} = \frac{27}{40}$$

設 $\overline{AB} = 27t$, $\overline{CD} = 40t$, $\overline{BC} = x$

又 $\angle APC = \angle APB + \angle BPC = \angle CPD + \angle BPC = \angle BPD$

$$\frac{\Delta APC}{\Delta BPD} = \frac{27t + x}{40t + x} = \frac{\frac{1}{2} \times 12 \times 10 \times \sin \angle APC}{\frac{1}{2} \times 9 \times 16 \times \sin \angle BPD} = \frac{5}{6}$$

$$\Rightarrow x = 200t - 162t = 38t$$

$$\Rightarrow \overline{AB} = \overline{BC} = \overline{CD} = 27 = 38 = 40$$