ANSWERS

A) (_____ , _____)

B) _____

C) (_____ , _____)

A) The numerical value of $\csc(2\,Arc\cot 4)$ may be represented as a simplified ratio of

integers $\dfrac{A}{B}$, where $B > 0$. Determine the ordered pair (A, B).

B) Find <u>all</u> values of x, where $0° \le x < 360°$, that satisfy

$$\frac{\sin 36° \sin 78° + \cos 36° \sin 12°}{\cos 72° \sin 66° + \sin 72° \sin 24°} = \tan x°$$

C) For some constant **B < 0**, $x = 135°$ is a solution of

$$\tan\left(Arc\sin\left(-\frac{2}{\sqrt{5}} \right) - Arc\cos B \right) = \cot(180° + x) .$$

The exact simplified value of B may be expressed in the rationalized form $\dfrac{P\sqrt{Q}}{Q}$.

Determine the ordered pair of integers (P, Q).