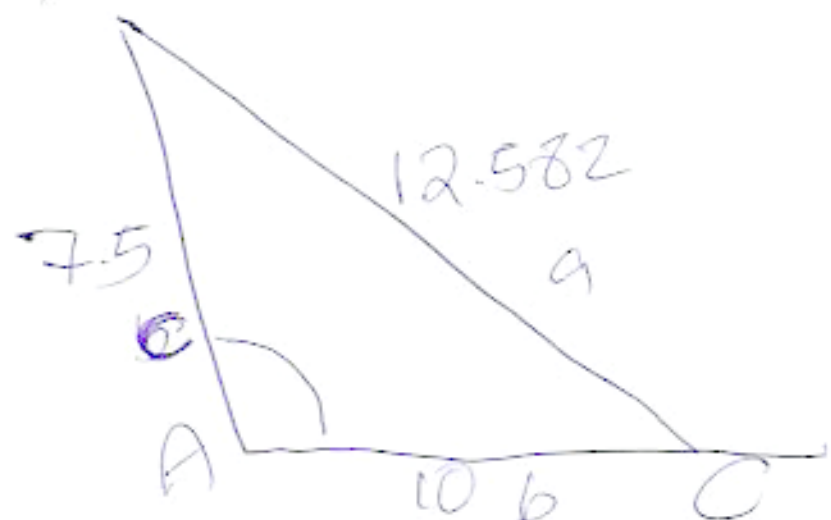


1) B

①



$$\cos A = \frac{b^2 + c^2 - a^2}{2bc} = \frac{10^2 + 7.5^2 - 12.582^2}{2 \times 7.5 \times 10}$$

$$= -0.013711$$

$$A = \cos^{-1}(-0.013711) = 1.584 \text{ rads}$$

$$= 90.7852^\circ \text{ degrees}$$



$$\sin A = \frac{0}{h} \Rightarrow 0 = h \sin A$$

$$0 = 7.5 \times \sin 0.7852$$

$$= 0.103 \text{ m}$$

$$= 103 \text{ mm}$$

2) i)

$$A = \begin{bmatrix} 3 & -2 & 1 \\ -1 & 1 & -2 \\ 4 & 3 & 2 \end{bmatrix}$$

$$x = \det \begin{bmatrix} -12 & -2 & 1 \\ 10 & 1 & -2 \\ -1 & 3 & 2 \end{bmatrix}$$

$$\det \begin{bmatrix} 3 & -2 & 1 \\ -1 & 1 & -2 \\ 4 & 3 & 2 \end{bmatrix}$$