

Solutions to Past Paper Questions – Trigonometry

12) Draw a line vertically from C to meet AB. Call the point where they meet X.

$$\text{Then } XB = 13 - 8 = 5\text{cm}$$

$$\text{So } \tan \hat{B} = \frac{6}{5} \Rightarrow \hat{B} = 50.2^\circ$$

10) First find DB: $\frac{DB}{9} = \cos 35^\circ \Rightarrow DB = 7.37 \dots$

$$\text{Now } \frac{DC}{7.37} \dots = \tan 50^\circ \Rightarrow DC = 8.79 \text{ cm (3sf)}$$

9) (a) $\tan BCA = \frac{12.8}{6.8} \Rightarrow BCA = 62.0^\circ$ (3sf)

$$\text{(b) } \sin 42^\circ = \frac{12.8}{BD} \Rightarrow BD = \frac{12.8}{\sin 42} = 19.1\text{m (3sf)}$$

10) (a) $DC^2 = 8^2 - 6^2$
 $DC^2 = 28$
 $DC = 5.29\text{cm (3sf)}$

$$\text{(b) } \cos DBC = \frac{6}{8} \Rightarrow DBC = \cos^{-1}\left(\frac{6}{8}\right) = 41.4^\circ \text{ (3sf)}$$

$$\text{(c) } \frac{8}{AB} = \sin 40^\circ \Rightarrow AB = \frac{8}{\sin 40^\circ} = 12.4\text{cm (3sf)}$$