TB(2B) Ch. 12 Trigonometric Ratios
Conventional Questions

1. [13-14 S.2 Final Exam #6]

In **Figure 2**, *ABCD* is a quadrilateral and *BC* = 7 cm. ∠*ABC* = ∠*CDA* = 90°, ∠*CAD* = 50° and ∠*BAC* = 36°.   Find the perimeter of the quadrilateral. **(4 marks)**
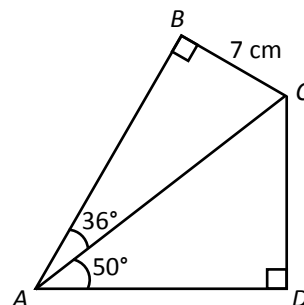
Figure 2

2.   [14-15 S.2 Final Exam #4]

In **Figure 1**, Δ*ABD* and Δ*BCD* are two right-angled triangles. It is given that *AB* = 6 cm, *BC* = 3 cm, *BD* = *x* cm and ∠*ADB* = 50°, find *x* and *θ*. **(4 marks)**

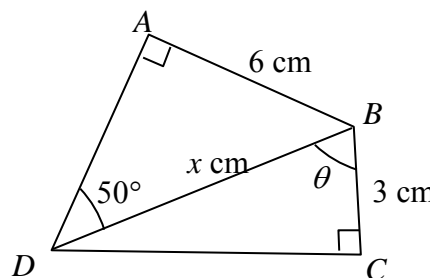(*Give the answers correct to 3 significant figures.*)

Figure 1

3.   [15-16 S.2 Final Exam #6]

In **Figure 2**, *ABCD* is an isosceles trapezium with *AB* = *DC*. It is given that *AD* = 5 cm, *BC* = 11 cm and ∠*B* = 45°. *E* is a point on *BC* such that $AE \perp BC$. Find the area of trapezium *ABCD*. **(2 marks)**

4.   **[15-16 S.2 Final Exam #12]**

In **Figure 4**, a rectangular sheet of paper with $AB = 10$ cm, is folded so that point C touches the opposite side AD at E. It is given that $\angle FBC = 20°$.
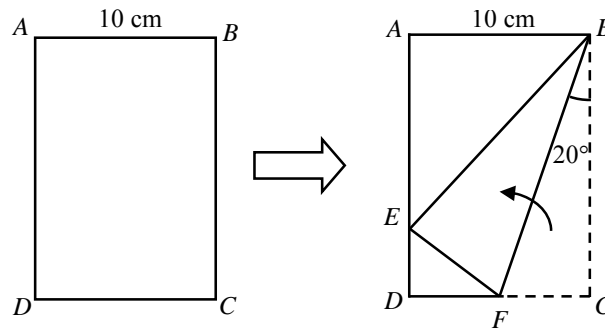
Figure 4

(a) Show that $\angle ABE = 50°$.   **(1 mark)**

(b) Find AE.   **(1 mark)**

(c) Find DE.   **(2 marks)**

5.   **[15-16 S.2 Final Exam #14]**

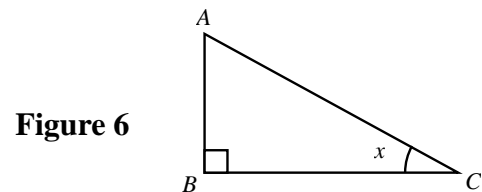In **Figure 6**, $\triangle ABC$ is a right-angled triangle. Prove that $\sin^2 x + \cos^2 x = 1$.   **(2 marks)**

Figure 6

6.   **[16-17 S.2 Final Exam #8]**

Figure 2 shows two triangles ABC and DEF. Find θ and DF.   **(3 marks)**
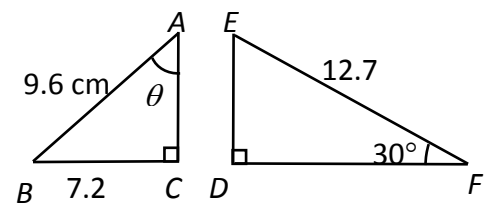
Figure 2

7. [17-18 S.2 Final Exam #6]

In **Figure 1**, O is a point on AB such that $OP \perp AB$. It is given that $AP = 8$ m, $OP = 5$ m, $\angle PBO = x$ and $AB = 19$ m.
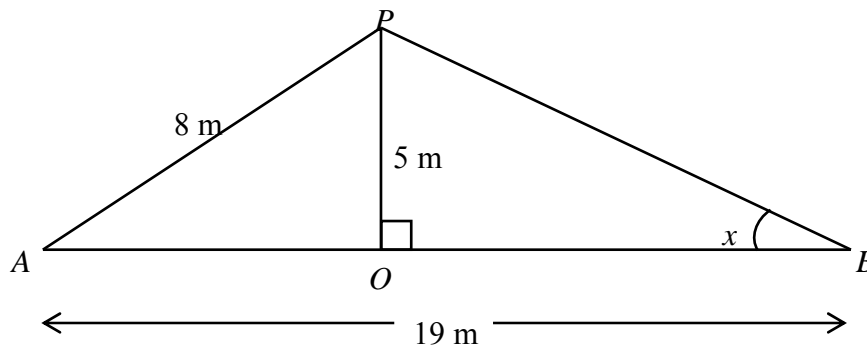

Figure 1

(a) Find OA.   **(2 marks)**

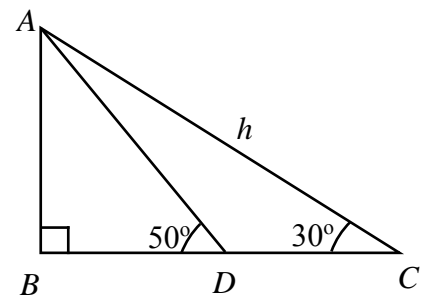**(b)** Find x.   **(2 marks)**

8. [17-18 S.2 Final Exam #12]

In **Figure 4**, $\triangle ABC$ is a right-angled triangle with $\angle B = 90°$, $\angle C = 30°$ and $AC = h$. D is a point on BC such that $\angle ADB = 50°$.

(a) Find AB in terms of h.   **(2 marks)**

(b) If $DC = 8$, find h.   **(2 marks)**

Figure

~ End ~