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

1. [12-13 S.2 Final Exam #4]

In **Figure 2**, D is a point on BC such that $AD \perp BC$, $AB = 10$ cm, $DC = 13$ cm and $\angle ABC = 60°$.   Find

(a) AD and BD; **(2 marks)**
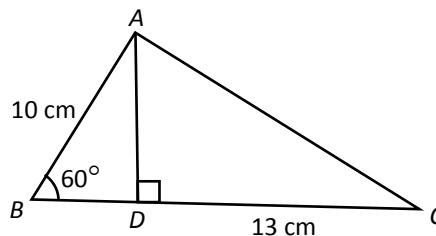**(b)** the area of $\triangle ABC$. **(2 marks)**

Figure 2

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

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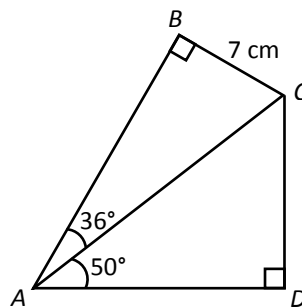

Figure 2

3.   [14-15 S.2 Final Exam #4]

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

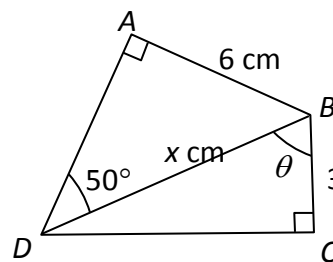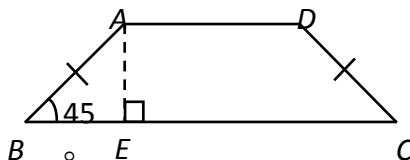(*Give the answers correct to 3 significant figures.*)

Figure 1

4.   [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 $\angle B = 45°$. E is a point on BC such that $AE \perp BC$. Find the area of trapezium $ABCD$. **(2 marks)**

5.   [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°.
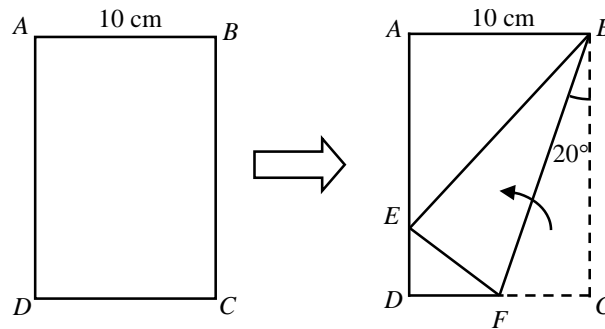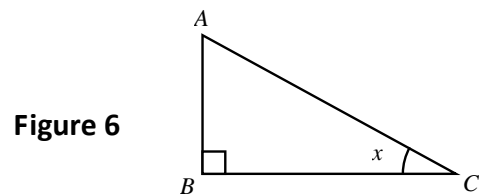

Figure 4

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

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

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

6.   [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

~ End ~