TB(2A) Ch. 5 Angles Related to Rectilinear Figures
Conventional Questions

1. [12-13 Final Exam #3]

In **Figure 1**, $\angle CAB = \angle CDB$ and $EB = EC$. AC and BD intersect at E. Prove that

(a) $\Delta ABE \cong \Delta DCE$; **(3 marks)**

(b) ΔOBC is an isosceles triangle. **(4 marks)**

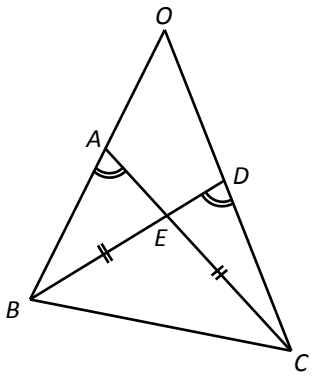

Figure 1

2. [12-13 Final Exam #8]

If an interior angle of an n-sided regular polygon is larger than an exterior angle by 150^o, find the value of n. **(3 marks)**

3. [13-14 Final Exam #5]

In **Figure 1**, ΔABC is an equilateral triangle and $AB \perp AD$. BCD is a straight line. Show that ΔACD is an isosceles triangle. **(3 marks)**

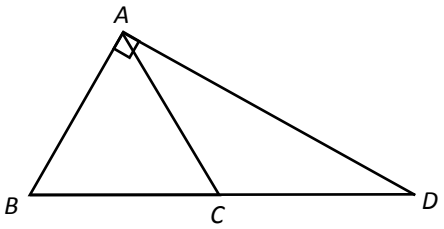

Figure 1

4. [13-14 S.1 Final Exam, Q7]

Figure 3 shows a hexagon $ABCDEF$.

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

(b) Is FE parallel to BC? Explain your answer. **(3 marks)**

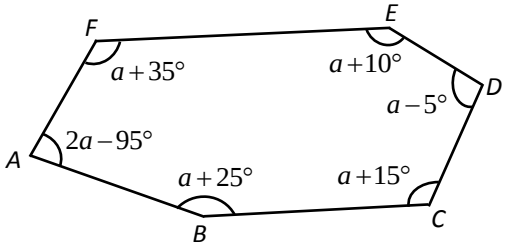

Figure 3

5. [14-15 Standardized Test #3]

In **Figure 2**, $ABCDEFGH$ is a regular octagon and $ABIJK$ is a regular pentagon. Find

(a) x and **(2 marks)**

(b) y. **(2 marks)**

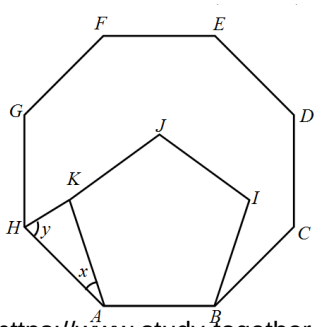

Figure 2

6. [14-15 Standardized Test #7]

In **Figure 3**, *AEC*, *AFB*, *DEF* and *BCD* are straight lines. $AB = AC$, $BC = BE$, $CD = CE$ and $\angle CAB = 40°$. Prove that ΔEFB is an isosceles triangle. **(3 marks)**

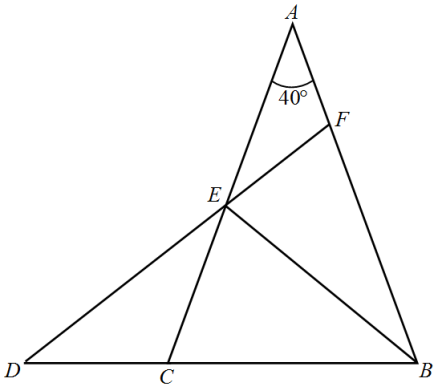

Figure 3

7. [14-15 S.2 Final Exam #8]

In **Figure 2**, *A* is the mid-point of *CF* and *ABDEF* is a regular pentagon.

(a) Find $\angle BAF$. **(2 marks)**

(b) Find $\angle C$. **(2 marks)**

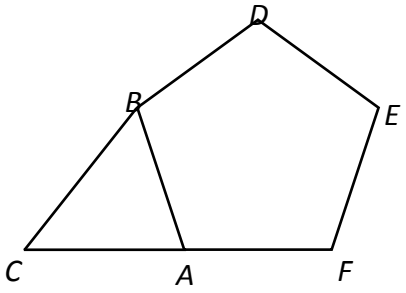

Figure 2

8. [15-16 S.2 Final Exam #5]

In **Figure 1**, *ABCD* and *EFG* are straight lines, and $\angle BFC = 45°$.

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

(b) Prove that *AD* // *EG*. **(2 marks)**

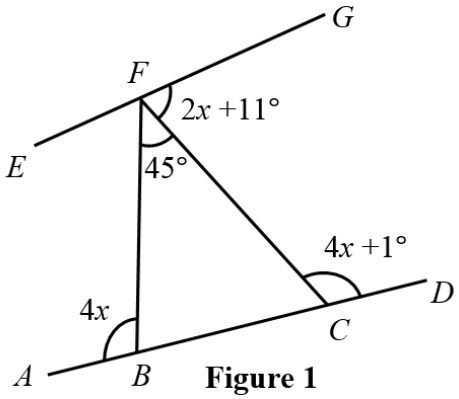

Figure 1

9. [15-16 S.2 Final Exam #13]

In **Figure 5**, $AB = AC$, $\angle CDE = \frac{1}{2}\angle BAC$ and $\angle ABC = \angle ACD = y$. BD and AC intersect at E.

(a) (i) Find $\angle ACB$ in terms of y. **(1 mark)**

(ii) Find $\angle CDE$ in terms of y. **(2 marks)**

(b) (i) Prove that ΔBCD is an isosceles triangle. **(2 marks)**

(ii) Is $AC \perp DE$? Explain your answer. **(1 mark)**

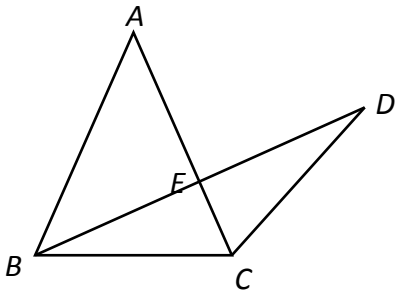

Figure 5

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