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

1. [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)**

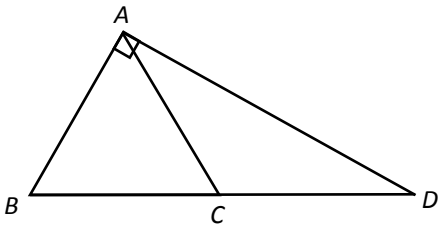

Figure 1

2. [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)**

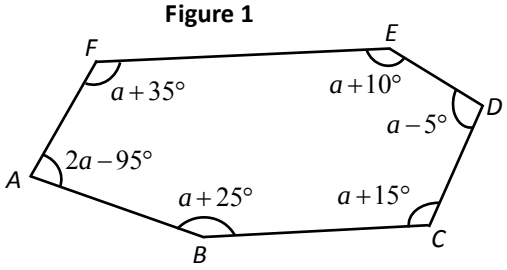

Figure 3

3. [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)**

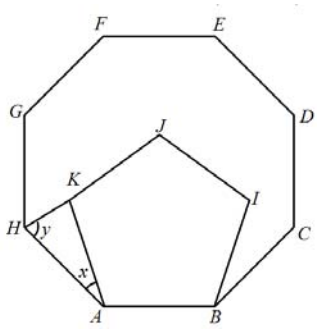

Figure 2

4. [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)**

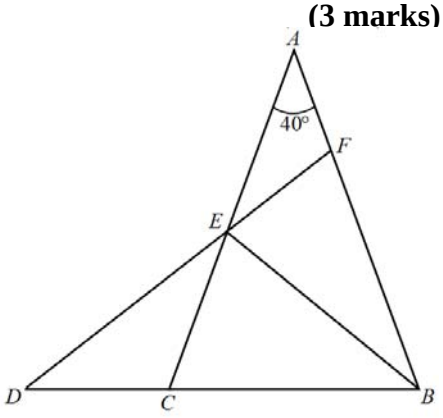

Figure 3

5. [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)**

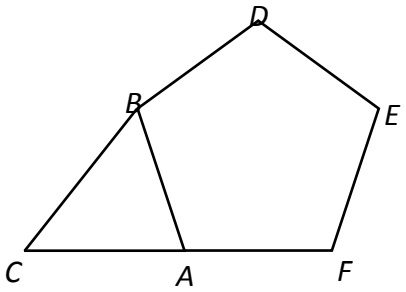

Figure 2

6. [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)**

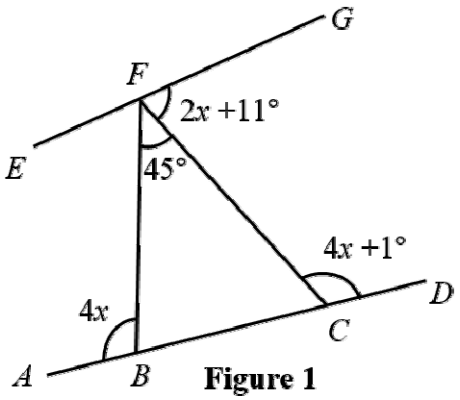

Figure 1

7. [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)**

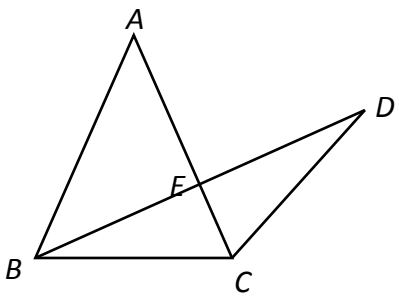

Figure 5

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

In **Figure 1**, *ACDEF* is a regular pentagon while *ABC* is an isosceles triangle with $AB = BC$. If $\angle BCD = 136°$, find $\angle ABC$. **(4 marks)**

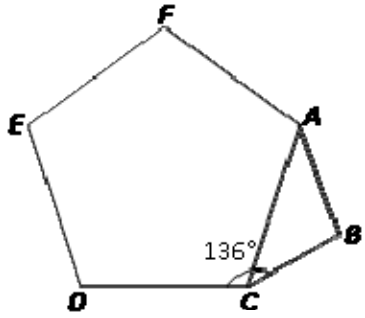

Figure 1

9. [17-18 Standardized Test 2 #4]

In **Figure 2**, five straight lines form a pentagon *ABCDE*. It is given that $\angle TED = \angle CDS = \angle QBC$, $\angle BCD = 75°$ and $\angle PAE = \angle EAD = 42°$. Find $\angle ADE$. **(3 marks)**

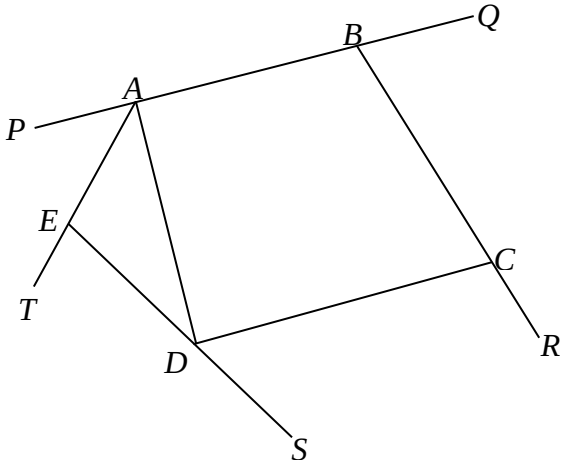

Figure 2

10. [17-18 S.2 Final Exam #7]

In **Figure 2**, *B* and *E* are points on *AC* and *AD* respectively. It is given that $\angle ABE = \angle BAE$, $AC = AD$ and $\angle ACD = 75°$. Find *x* and *y*. **(3 marks)**

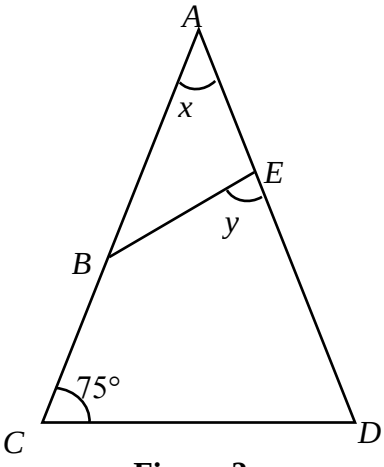

Figure 2

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