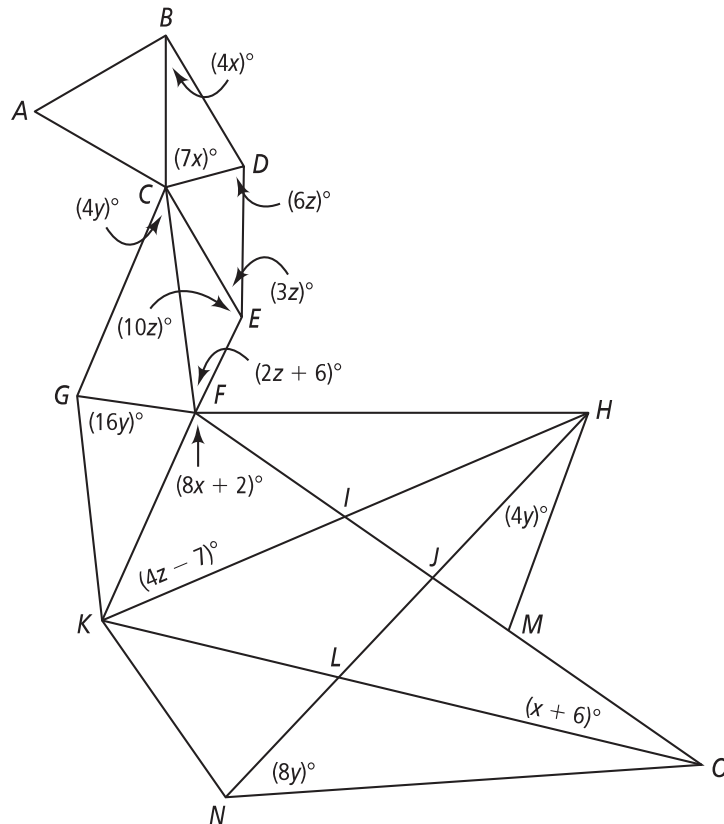


4-5 Enrichment

Isosceles and Equilateral Triangles

The swan below is composed of several triangles. Use the given information and the figure to find each angle measure. Note: Figure not drawn to scale.

Given: $\triangle ABC$ is equilateral; $\angle BCD \cong \angle BDC$; $\overline{DE} \cong \overline{CE} \cong \overline{EF}$; $\angle CGF \cong \angle CFG$;
 $\triangle GCF \cong \triangle GKF \cong \triangle JHM$; $\triangle KFH \cong \triangle KLH$; $\overline{KO} \cong \overline{FO}$;
 $\angle HKN \cong \angle HNK$; $\overline{JN} \cong \overline{JO}$



- | | | | |
|------------------------|----------------------|------------------------|------------------------|
| 1. $m\angle ABC$ 60 | 2. $m\angle BCA$ 60 | 3. $m\angle CAB$ 60 | 4. $m\angle BCD$ 70 |
| 5. $m\angle BDC$ 70 | 6. $m\angle CBD$ 40 | 7. $m\angle EDC$ 72 | 8. $m\angle ECD$ 72 |
| 9. $m\angle CED$ 36 | 10. $m\angle ECF$ 30 | 11. $m\angle EFC$ 30 | 12. $m\angle CEF$ 120 |
| 13. $m\angle CGF$ 80 | 14. $m\angle CFG$ 80 | 15. $m\angle GCF$ 20 | 16. $m\angle KGF$ 80 |
| 17. $m\angle KFG$ 80 | 18. $m\angle GKF$ 20 | 19. $m\angle FKH$ 41 | 20. $m\angle FHK$ 23 |
| 21. $m\angle KFH$ 116 | 22. $m\angle KHL$ 23 | 23. $m\angle HKL$ 41 | 24. $m\angle KLH$ 116 |
| 25. $m\angle HJM$ 80 | 26. $m\angle HMJ$ 80 | 27. $m\angle JHM$ 20 | 28. $m\angle OFK$ 82 |
| 29. $m\angle OKF$ 82 | 30. $m\angle KOF$ 16 | 31. $m\angle HKN$ 78.5 | 32. $m\angle HNK$ 78.5 |
| 33. $m\angle OKN$ 37.5 | 34. $m\angle JNO$ 40 | 35. $m\angle JON$ 40 | 36. $m\angle NJO$ 100 |