

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; $\angle BCD \cong \angle BDC$; $\overline{DE} \cong \overline{CE} \cong \overline{EF}$; $\angle CGF \cong \angle CFG$; $\angle GCF \cong \angle GKF \cong \angle JHM$; $\triangle KFH \cong \triangle KHL$; $\overline{KO} \cong \overline{FO}$; $\angle HKN \cong \angle HNK$; $\overline{JN} \cong \overline{JO}$



- | | | | |
|-----------------------------|------------------------------|-----------------------------|-----------------------------|
| 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. $m\angle EFC$ | 12. $m\angle CEF$ |
| 13. $m\angle CGF$ | 14. $m\angle CFG$ | 15. $m\angle GCF$ | 16. $m\angle KGF$ |
| 17. $m\angle KFG$ | 18. $m\angle GKF$ | 19. $m\angle FKH$ | 20. $m\angle FHK$ |
| 21. $m\angle KFH$ | 22. $m\angle KHL$ | 23. $m\angle HKL$ | 24. $m\angle KHL$ |
| 25. $m\angle HJM$ | 26. $m\angle HML$ | 27. $m\angle JHM$ | 28. $m\angle OFK$ |
| 29. $m\angle OKF$ | 30. $m\angle KOF$ | 31. $m\angle HKN$ | 32. $m\angle HNK$ |
| 33. $m\angle OKN$ | 34. $m\angle JNO$ | 35. $m\angle JON$ | 36. $m\angle NJO$ |

Triangular Swan 4 5 Enrichment Isosceles And Equilateral Triangles

M Lipman



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