Name: **Date:**

Scaffolded Practice: Proving Theorems About Isosceles Triangles

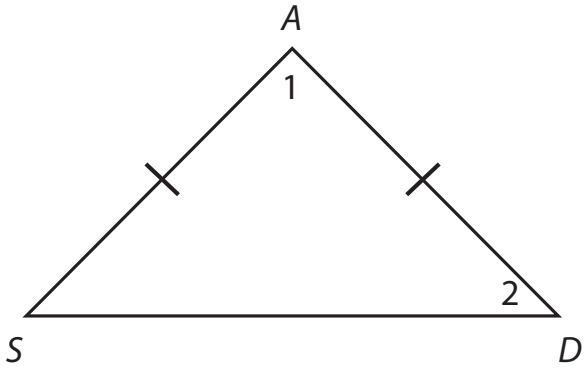
Use what you know about isosceles triangles to complete problems 1–3.

1. Explain the Isosceles Triangle Theorem.

2. Explain the Converse of the Isosceles Triangle Theorem.

3. If a triangle is equilateral, what does that mean for its interior angles?

Use the following diagram to complete problems 4 and 5.

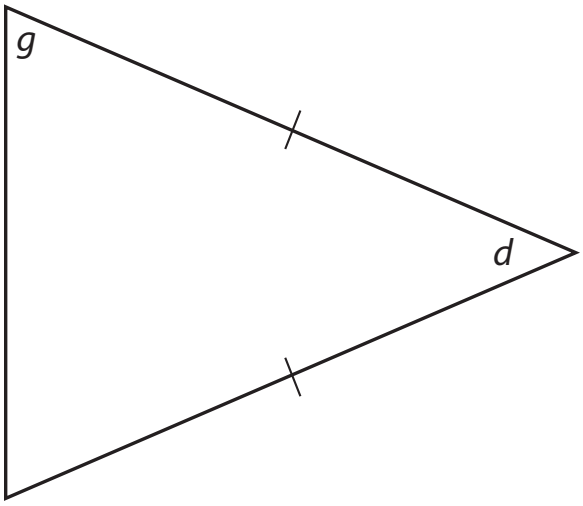


4. Determine the measure of $\angle 2$ if $m\angle 1 = 80^\circ$.

5. Determine the measure of $\angle 1$ if $m\angle 2 = 55^\circ$.

continued

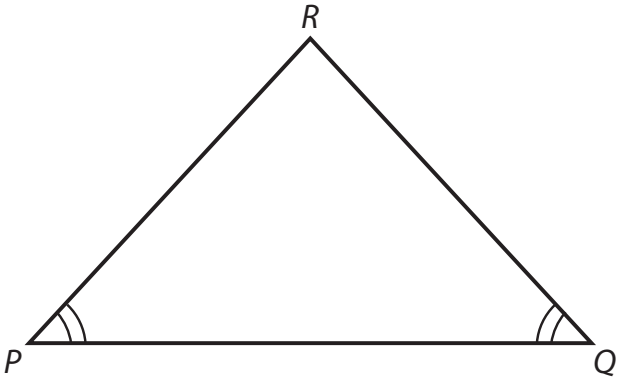
Use the following diagram to complete problems 6 and 7.



6. Determine the measure of $\angle g$ if $m\angle d = 82^\circ$.

7. Determine the measure of $\angle d$ if $m\angle g = 52^\circ$.

8. Use the triangle below to find the value of x if $RP = 12$ and $RQ = 4x - 8$.



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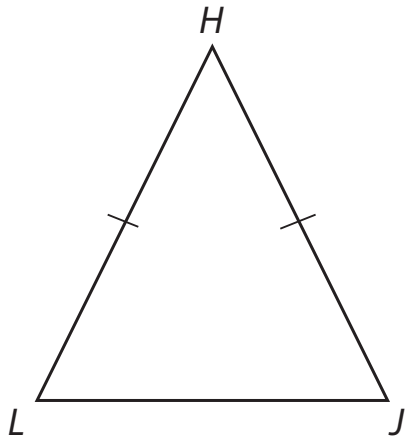
9. Use the triangle below to find the value of x if $m\angle L = 3x$ and $m\angle J = 21 - 4x$.



10. Use the diagram below to determine the measure of $\angle k$ if $m\angle h = 46^\circ$.