8. 
\[ m\angle P + m\angle R < 180 \]

\[ PQ < QR \]

Write an inequality to describe the restrictions of \( x \).

\[
\begin{align*}
(7x - 18)^\circ & \quad (4x)^\circ \\
P & \quad Q \\
\end{align*}
\]

9. 

**Given:**
- \( OP = RS \)
- \( KO = KS \)
- \( M \) is the midpoint of \( \overline{OK} \)
- \( T \) is the midpoint of \( \overline{KS} \)

**Prove:**
- \( MP = TR \)

<table>
<thead>
<tr>
<th>Statements</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>( OP = RS )</td>
<td>( KO = KS )</td>
</tr>
<tr>
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<td>( T ) is the midpoint of ( \overline{KS} )</td>
</tr>
</tbody>
</table>
11. Is \( \triangle ABC \) isosceles?

![Triangle ABC with sides labeled](image)

12. Given:
- \( \odot Q \)
- \( PS \perp SR \)
- \( m \angle P = 36^\circ \)

Find:
- a. \( m \angle PSQ \)
- b. \( m \angle R \)

Remember - we haven't yet proved that the sum of the measure of the angles of a \( \triangle \) is 180°!!
14. Prove that the median to the base of an isosceles Δ bisects the vertex ∠.

Given:

Prove:

<table>
<thead>
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<tr>
<td>PR ≅ ST</td>
<td></td>
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<tr>
<td>NP ≅ VT</td>
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<tr>
<td>∠P ≅ ∠T</td>
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</tbody>
</table>

16. Given: PR = ST
      NP = VT
      ∠P = ∠T

Prove: ΔWRS is isosceles

<table>
<thead>
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<th>Reasons</th>
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</thead>
<tbody>
<tr>
<td>DIAGRAM</td>
<td></td>
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</tbody>
</table>
20. **Given:** 

- $A$ is the vertex of an isosceles $\triangle$
- The number of degrees in $\angle B$ is twice the number of centimeters in $BC$
- The number of degrees in $\angle C$ is three times the number of centimeters in $AB$

$m\angle B = x + 6$

$m\angle C = 2x - 54$

**Find:** The perimeter of $\triangle ABC$

---

22. **Given:**

- $FG = JH$
- $\angle FGH = \angle JHG$

**Prove:** $\triangle FKJ$ is isosceles
25.

**Given:** \( \triangle FED \) is equilateral

**Find:** \( x, y \), and \( m \angle F \)