**Activity 2.2.2 Applying the SAS Congruence Theorem**

*In this activity you will use the SAS Congruence Theorem to make claims about triangles.*

*Examples are shown in each section*

**Section 1**: Use the SAS Congruence Theorem to prove that the triangles shown are congruent

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| --- | --- | --- | --- |
|  | **Triangle #1** | **Triangle #2** | **Proof** |
| 1. |  |  |  $\overbar{AB}≅\overbar{FG}$ Given$\overbar{BC}≅\overbar{GH}$ Given$∡ABC≅∡FGH$ Given$△ABC≅△FGH$ SAS |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

**Section 2**: Prove that the specified angles or segments are congruent

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Triangle #1** | **Triangle #2** | **Proof** |
| 5. |  |  | Prove: $\overbar{AC}≅\overbar{DF}$$\overbar{AB}≅\overbar{DE}$ Given$\overbar{BC}≅\overbar{EF}$ Given$∡ABC≅∡DEF$ Given$△ABC≅△GEF$ SAS$\overbar{AC}≅\overbar{DF}$ CPCTC |
| 6.  |  |  | Prove: $\overbar{AC}≅\overbar{KH}$ |
| 7. |  |  | Prove: $∡FDE≅∡SRQ$ |
| 8. |  |  | Prove: $∡CAB≅∡YZX$ |

**Section 3**: Show how the triangles shown can be proved congruent using the SAS Congruence Theorem, or explain why the information given is not sufficient.

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|  | **Triangle #1** | **Triangle #2** | **Proof** |
| 9. |  |  |  |
| 10 |  |  |  |
| 11 |  |  |  |
| 12 |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 13 |  |  |  |
| 14 |  |  |  |
| 15 |  |  |  |
| 16 |  |  |  |