# Activity 4.3.1: Proving Inequalities in a Triangle

### Total points = 31

- 1. Reasons
- 1. Given
- 2. Definition of Midpoint√
- 3. Vertical Angles theorem√
- 4. SAS Triangle Congruence Postulate√
- 5. CPCTC
- 6. Definition of Congruent Angles√
- 7. Angle Addition Postulate
- 8. Law of Substitution 🗸
- 9. The whole is greater than its parts. 🗸
- 2. Reasons
  - 1. Given ✓
  - 2. Definition of Midpoint <
  - 3. Transitive Property 🗸
- Base Angles Theorem ✓
- 5. Angle Addition Postulate 🗸
- 6. Law of Substitution 🗸
- 7. The whole is greater than its parts.  $\checkmark$
- 8. Angle-Side Relationship theorem 🗸
- 9. Segment Addition Postulate 🗸
- 10. Law of Substitution 🗸 11. Law of Substitution 🗸
- 3. Reasons
- 1. Given ✓ 2. CPCTC <
- 3. Definition of Angle Bisector 🗸
- 4. Reflexive Property ✓
- 5. SAS Postulate ✓
- 6. CPCTC V
- 7. Triangle Inequality theorem ✓
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- 5. SAS Postulate ✓
- CPCTC ✓
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