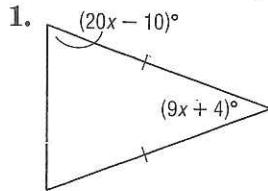


4 Chapter 4 Open-Ended Assessment

Demonstrate your knowledge by giving a clear, concise solution to each problem. Be sure to include all relevant drawings and justify your answers. You may show your solution in more than one way or investigate beyond the requirements of the problem.

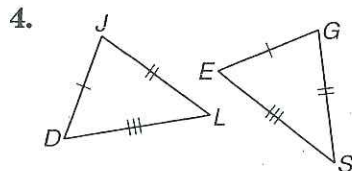
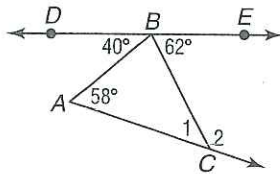


- a. Classify the triangle by its angles and sides.
- b. Show the steps needed to solve for x .

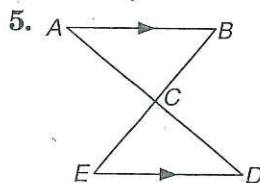
2. a. Describe how to determine whether a triangle with coordinates $A(1, 4)$, $B(1, -1)$, and $C(-4, 4)$ is an equilateral triangle.

- b. Is the triangle equilateral? Explain.

3. Explain how to find $m\angle 1$ and $m\angle 2$ in the figure.



- a. State the theorem or postulate that can be used to prove that the triangles are congruent.
- b. List their corresponding congruent angles and sides.



Given: $\overline{AB} \parallel \overline{DE}$, \overline{AD} bisects \overline{BE} .

Prove: $\triangle ABC \cong \triangle DEC$ by using the ASA postulate.

Chapter 4 Assessment Answer Key

Page 237, Open-Ended Assessment Scoring Rubric

Score	General Description	Specific Criteria
4	Superior A correct solution that is supported by well-developed, accurate explanations	<ul style="list-style-type: none"> Shows thorough understanding of the concepts of <i>using the Distance Formula to classify triangles and verify congruence, finding missing angles, solving algebraic equations in isosceles and equilateral triangles, proving triangles congruent, verifying congruence transformations, and writing coordinate proofs.</i> Uses appropriate strategies to solve problems Written explanations are exemplary. Figures are accurate and appropriate. Goes beyond requirements of some or all problems.
3	Satisfactory A generally correct solution, but may contain minor flaws in reasoning or computation	<ul style="list-style-type: none"> Shows understanding of the concepts of <i>using the Distance Formula to classify triangles and verify congruence, finding missing angles, solving algebraic equations in isosceles and equilateral triangles, proving triangles congruent, verifying congruence transformations, and writing coordinate proofs.</i> Uses appropriate strategies to solve problems Computations are mostly correct. Written explanations are effective. Figures are mostly accurate and appropriate. Satisfies all requirements of all problems.
2	Nearly Satisfactory A partially correct interpretation and/or solution to the problem	<ul style="list-style-type: none"> Shows understanding of most of the concepts of <i>using the Distance Formula to classify triangles and verify congruence, finding missing angles, solving algebraic equations in isosceles and equilateral triangles, proving triangles congruent, verifying congruence transformations, and writing coordinate proofs.</i> May not use appropriate strategies to solve problems Computations are mostly correct. Written explanations are satisfactory. Figures are mostly accurate. Satisfies the requirements of most of the problems.
1	Nearly Unsatisfactory A correct solution with no supporting evidence or explanation	<ul style="list-style-type: none"> Final computation is correct. No written explanations or work is shown to substantiate the final computation. Figures may be accurate but lack detail or explanation. Satisfies minimal requirements of some of the problems.
0	Unsatisfactory An incorrect solution indicating no mathematical understanding of the concept or task, or no solution is given	<ul style="list-style-type: none"> Shows little or no understanding of most of the concepts of <i>using the Distance Formula to classify triangles and verify congruence, finding missing angles, solving algebraic equations in isosceles and equilateral triangles, proving triangles congruent, verifying congruence transformations, and writing coordinate proofs.</i> Does not use appropriate strategies to solve problems Computations are incorrect. Written explanations are unsatisfactory. Figures are inaccurate or inappropriate. Does not satisfy the requirements of the problems. No answer may be given.