### Lesson 12 Practice Problems

1. Lin is using the diagram to prove the statement, “If a parallelogram has one right angle, it is a rectangle.” Given that $EFGH$ is a parallelogram and angle $HEF$ is right, which reasoning about angles will help her prove that angle $FGH$ is also a right angle?
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	1. Corresponding angles are congruent when parallel lines are cut by a transversal.
	2. Opposite angles in a parallelogram are congruent.
	3. Vertical angles are congruent.
	4. The base angles of an isosceles triangle are congruent.
1. $ABDE$ is an isosceles trapezoid. Select **all** pairs of congruent triangles.
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	1. Triangle $ABE$ and triangle $DBE$
	2. Triangle $ABD$ and triangle $DAE$
	3. Triangle $ABE$ and triangle $BAD$
	4. Triangle $AED$ and triangle $BDE$
	5. Triangle $EAB$ and triangle $EDB$
1. Match each conjecture with the rephrased statement of proof connected to the diagram.
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	1. The diagonals of a parallelogram bisect each other.
	2. In a parallelogram, opposite sides are congruent.
	3. A quadrilateral with opposite sides congruent is a parallelogram.
	4. If the diagonals of a quadrilateral bisect each other, then it is a parallelogram.
	5. In quadrilateral $EFGH$ with $GH$ congruent to $FE$ and $EH$ congruent to $FG$, show $EFGH$ is a parallelogram.
	6. In parallelogram $EFGH$, show $GH$ is congruent to $FE$ and $EH$ congruent to $FG$.
	7. In quadrilateral $EFGH$ with $EK$ congruent to $KG$ and $FK$ congruent to $KH$, show $EFGH$ is a parallelogram.
	8. In parallelogram $EFGH$, show $EK$ is congruent to $KG$ and $FK$ congruent to $KH$.
1. Which of the following criteria *always* proves triangles congruent? Select **all** that apply.
	1. Corresponding congruent Angle-Side-Angle
	2. Corresponding congruent Side-Angle-Side
	3. Corresponding congruent Side-Side-Angle
	4. 3 congruent sides
	5. 2 congruent sides
	6. 3 congruent angles
* (From Unit 2, Lesson 11.)
1. Select **all** true statements based on the diagram.
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	1. Segment $EB$ is congruent to segment $AD$.
	2. Segment $DC$ is congruent to segment $AB$.
	3. Segment $DA$ is congruent to segment $CB$.
	4. Angle $CBE$ is congruent to angle $ABE$.
	5. Angle $CEB$ is congruent to angle $DEA$.
	6. Line $DA$ is parallel to line $CB$.
	7. Line $DC$ is parallel to line $AB$.
* (From Unit 2, Lesson 10.)
1. Diego states that diagonal $WY$ bisects angles $ZWX$ and $ZYX$. Is he correct? Explain your reasoning.
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* (From Unit 2, Lesson 9.)
1. Sketch the unique triangles that can be made with angle measures $80^{∘}$ and $20^{∘}$ and side length 5. How do you know you have sketched all possibilities?
* (From Unit 2, Lesson 4.)



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