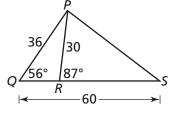
Class Date

Additional Practice

Lessons 4.14 and 4.15

Use the figure	for Exercises 1–	14. $\triangle PQS \sim \triangle$	RPS.		
$m \angle Q = 56^{\circ}, m$	$\angle PRS = 87^{\circ}, PQ$	= 36, QS = 60	,		
and <i>RP</i> = 30.					
Find each measure.					
1. <i>m∠PRQ</i>	2. <i>m</i> ∠ <i>QPR</i>	3. <i>m</i> ∠ <i>RPS</i>	4 . m		



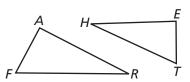
1. <i>m∠PRQ</i>	2. <i>m</i> ∠ <i>QPR</i>	3. <i>m</i> ∠ <i>RPS</i>	4. <i>m</i> ∠ <i>QPS</i>
5. <i>m</i> ∠ <i>S</i>	6. <i>PS</i>	7. <i>RS</i>	8. <i>QR</i>

Decide whether each statement is correct.

9. $\triangle PSQ \sim \triangle RSP$	10. $\triangle PRS \sim \triangle QPS$	11. $\triangle RPS \sim \triangle SQP$
12. $\triangle SQP \sim \triangle SPR$	13. $\triangle QSP \sim \triangle RSP$	14. $\triangle SQP \sim \triangle SPR$

In Exercises 15–22, $\triangle FAR \sim \triangle TEH$. Complete each statement.

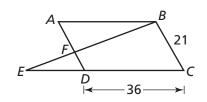
15. $\frac{FR}{TH} = \frac{AF}{\Box}$	16. $\frac{EH}{TE} = \frac{\Box}{FA}$	17. $\frac{\Box}{RA} = \frac{HT}{HE}$
18. ∠ <i>A</i> ≅ □	19. ∠ <i>T</i> ≅ □	20. ∠ <i>H</i> ≅ □
21. △ <i>ARF</i> ~ □	22. △ <i>ETH</i> ~ □	



- 23. The sides of a triangle have lengths 5, 6, and 8. A triangle similar to it has a side of length 10. Write all side lengths of each possible similar triangle.
- 24. The sides of a triangle have lengths 12, 18, and 18. A triangle similar to it has a side of length 8. Write all side lengths of each possible similar triangle.
- 25. A triangle has sides of length 5, 7, and 8. A triangle similar to it has a perimeter of 15. What are the lengths of the sides of this triangle?
- 26. A triangle has sides of length 9, 12, and 15. A triangle similar to it has a perimeter of 40. What are the lengths of the sides of this triangle?

Use the diagram for Exercises 27–29.

- **27.** Figure *ABCD* is a parallelogram. Prove that $\triangle ABF \sim \triangle DEF.$
- **28.** Suppose $m \angle E = 20^\circ$ and $m \angle C = 60^\circ$. Find the measure of each angle. **a.** $\angle EBA$ **b.** ∠*A* **c.** $\angle EDF$
- **29.** Is $\triangle ABF \sim \triangle CEB$? Explain.



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