3-1 Exercises

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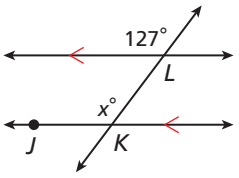
Homework Help

GUIDED PRACTICE

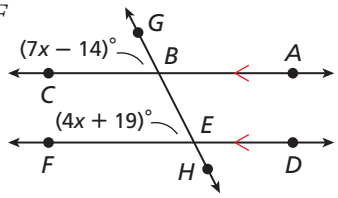
SEE EXAMPLE 1

Find each angle measure.

1. m∠*JKL*

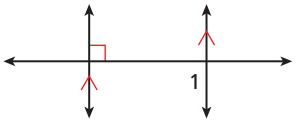


2. m∠*BEF*

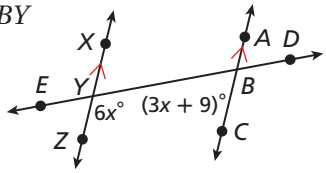


SEE EXAMPLE 2

3. m∠1

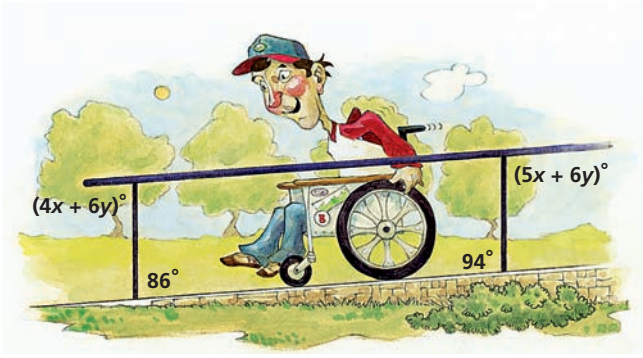


4. m∠*CBY*



SEE EXAMPLE 3

5. **Safety** The railing of a wheelchair ramp is parallel to the ramp. Find x and y in the diagram.



PRACTICE AND PROBLEM SOLVING

Independent Practice

For Exercises	See Example
6–7	1
8–11	2
12	3

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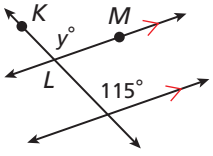
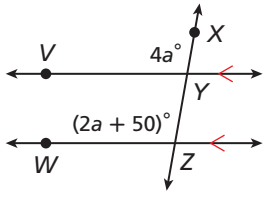
Online Extra Practice

Find each angle measure.

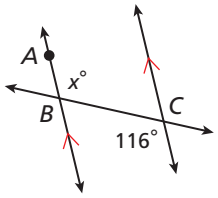
6. m∠*KLM*



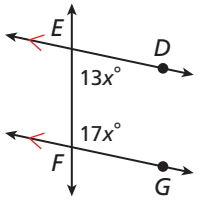
7. m∠*VYX*



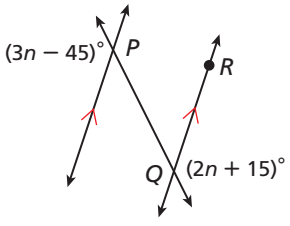
8. m∠*ABC*



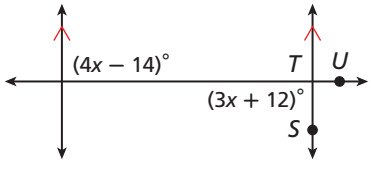
9. m∠*EFG*



10. m∠*PQR*



11. m∠*STU*

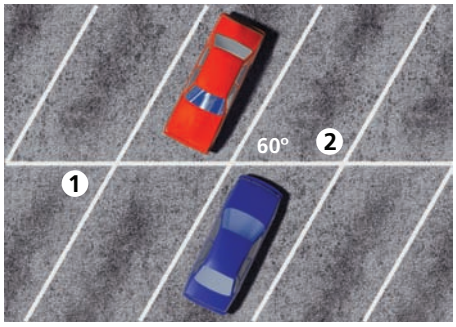


12. Parking In the parking lot shown, the lines that mark the width of each space are parallel.

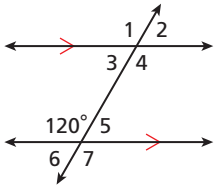
$m\angle 1 = (2x - 3y)°$

$m\angle 2 = (x + 3y)°$

Find x and y.



Find each angle measure. Justify each answer with a postulate or theorem.

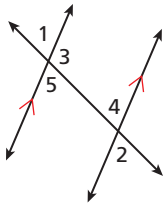


13. $m\angle 1$ **14.** $m\angle 2$ **15.** $m\angle 3$

16. $m\angle 4$ **17.** $m\angle 5$ **18.** $m\angle 6$

19. $m\angle 7$

Algebra **State the theorem or postulate that is related to the measures of the angles in each pair. Then find the angle measures.**



20. $m\angle 1 = (7x + 15)°$, $m\angle 2 = (10x - 9)°$

21. $m\angle 3 = (23x + 11)°$, $m\angle 4 = (14x + 21)°$

22. $m\angle 4 = (37x - 15)°$, $m\angle 5 = (44x - 29)°$

23. $m\angle 1 = (6x + 24)°$, $m\angle 4 = (17x - 9)°$

LINK Architecture

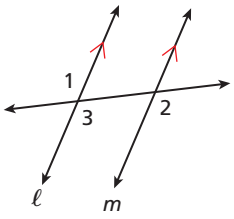
The Luxor hotel is 600 feet wide, 600 feet long, and 350 feet high. The atrium in the hotel measures 29 million cubic feet.

24. Architecture The Luxor Hotel in Las Vegas, Nevada, is a 30-story pyramid. The hotel uses an elevator called an inclinator to take people up the side of the pyramid. The inclinator travels at a 39° angle. Which theorem or postulate best illustrates the angles formed by the path of the inclinator and each parallel floor? (*Hint:* Draw a picture.)

25. Complete the two-column proof of the Alternate Exterior Angles Theorem.

Given: $\ell \parallel m$

Prove: $\angle 1 \cong \angle 2$



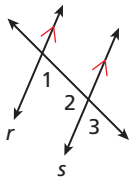
Proof:

Statements	Reasons
1. $\ell \parallel m$	1. Given
2. a. ___?___	2. Vert. ∠ Thm.
3. $\angle 3 \cong \angle 2$	3. b. ___?___
4. c. ___?___	4. d. ___?___

H.O.T. 26. Write a paragraph proof of the Same-Side Interior Angles Theorem.

Given: $r \parallel s$

Prove: $m\angle 1 + m\angle 2 = 180°$



H.O.T. Draw the given situation or tell why it is impossible.

27. Two parallel lines are intersected by a transversal so that the corresponding angles are supplementary.

28. Two parallel lines are intersected by a transversal so that the same-side interior angles are complementary.

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