

3-5

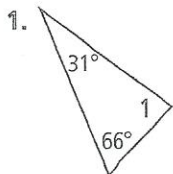
Practice

ANSWERS

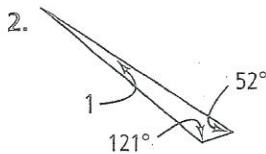
Form K

Parallel Lines and Triangles

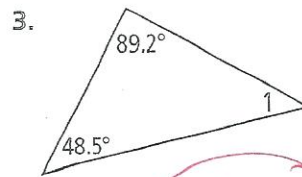
Find $m\angle 1$.



83°

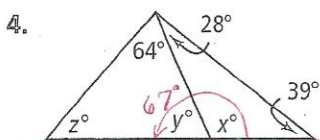


7°

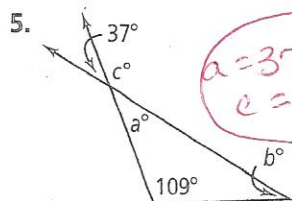


42.3°

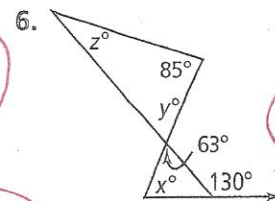
Algebra Find the value of each variable.



$z = 49^\circ$
 $x = 113^\circ$
 $y = 67^\circ$



$a = 37^\circ$
 $c = 143^\circ$
 $b = 34^\circ$



$y = 63^\circ$
 $z = 32^\circ$
 $63 + x = 130$
 $x = 67$

7. a. Which of the numbered angles are exterior angles?

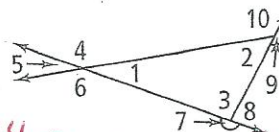
$\angle 10, \angle 4, \angle 6, \angle 8$

b. Name the remote interior angles for each exterior angle.

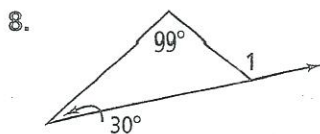
$\angle 10 \Rightarrow \angle 1 \text{ and } \angle 3$ / $\angle 8 \Rightarrow \angle 1 \text{ and } \angle 2$ / $\angle 4 \Rightarrow \angle 2 \text{ and } \angle 3$ / $\angle 6 \Rightarrow \angle 2 \text{ and } \angle 3$

c. Which two exterior angles share the same remote interior angles? Explain.

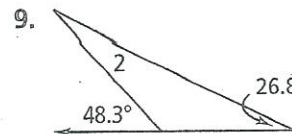
$\angle 6 \text{ and } \angle 4$



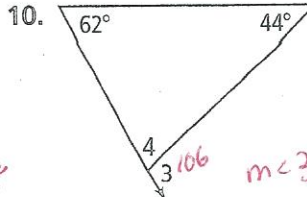
Algebra Find each missing angle measure.



$m\angle 1 = 99 + 30$
 129°



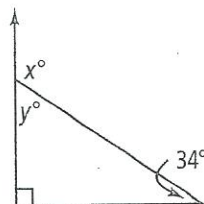
$48.3 = m\angle 2 + 26.8$
 21.5



$m\angle 3 = 62 + 44$
 106°
 $m\angle 4 = 180 - 106 =$
 74°

11. What are the values of x and y in the right triangle?

$y + 90 + 34 = 180$
 $y = 56^\circ$
 $x = 180 - 56$
 124°



Chapter 3 Quiz 1

Lessons 3-1 through 3-5

ANSWERS Form G

Do you know HOW?

State the theorem or postulate that justifies each statement.

1. If $\angle 1 \cong \angle 4$, then $p \parallel q$.
Conv. of corresp. \angle 's thm

2. $\angle 6 \cong \angle 8$
alt. int. \angle 's thm

3. $m\angle 7 + m\angle 8 = 180$
Same side int. \angle 's thm.

4. $\angle 5 \cong \angle 8$
Corresp. \angle 's thm

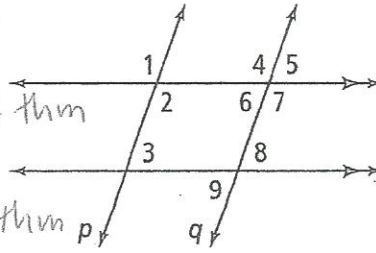
5. If $\angle 2 \cong \angle 4$, then $p \parallel q$.
Conv. of alt. int. \angle 's thm

6. $\angle 8 \cong \angle 9$
Vertical \angle 's thm

7. If $\angle 3 \cong \angle 8$, then $p \parallel q$.
Conv. of corresp. \angle 's thm

8. $\angle 6 \cong \angle 9$
Corresp. \angle 's thm.

9. If $m\angle 2 + m\angle 6 = 180$, then $p \parallel q$.
Conv. of same side int. \angle 's thm.



Name two pairs of each type of angle.

10. Corresponding

11. Alternate interior

12. Vertical

$\angle 1$ and $\angle 4$; $\angle 2$ and $\angle 7$ $\angle 6$ and $\angle 8$; $\angle 4$ and $\angle 2$

$\angle 5$ and $\angle 6$; $\angle 8$ and $\angle 9$

13. Same-side interior

14. Same-side exterior

$\angle 2$ and $\angle 3$; $\angle 7$ and $\angle 8$ ~~$\angle 2$ and $\angle 3$; $\angle 7$ and $\angle 8$~~

In a triangle, $\angle 1$, $\angle 2$, and $\angle 3$ are interior angles, and $\angle 4$ is an exterior angle with remote interior angles $\angle 2$ and $\angle 3$. Find the missing angle measures.



15. $m\angle 2 = 50$ and $m\angle 3 = 80$
 $m\angle 4 = 130^\circ$; $m\angle 1 = 50^\circ$

16. $m\angle 4 = 100$ and $m\angle 2 = 50$
 $m\angle 3 = 50^\circ$; $m\angle 1 = 80^\circ$

17. $m\angle 1 = 75$ and $m\angle 3 = 20$
 $m\angle 4 = 105$; $m\angle 2 = 85^\circ$

18. $m\angle 4 = 110$ and $m\angle 2 = 70$
 $m\angle 3 = 40$; $m\angle 1 = 70^\circ$

19. $m\angle 3 = 40$ and $m\angle 2 = 65$
 $m\angle 4 = 105$; $m\angle 1 = 75^\circ$

20. $m\angle 1 = 60$ and $m\angle 3 = 30$
 $m\angle 4 = 120$; $m\angle 2 = 90^\circ$

Do you UNDERSTAND?

21. **Error Analysis** A student made the following incorrect statement. What is wrong with her statement? How do you know?

If line a is parallel to line b , and line b is parallel to line c , then line a must be perpendicular to line c .

22. **Open-Ended** Give an example from your classroom of two lines that are skew.

height of door frame and length of windows