Identify three pairs of parallel sides in the diagram.

1. \( AB \parallel ? \)
2. \( BC \parallel ? \)
3. \( AC \parallel ? \)

Name the side that is parallel to the given side.

4. \( MN \)
5. \( ON \)
6. \( AB \)
7. \( CB \)
8. \( OM \)
9. \( AC \)

Points \( J, K, \) and \( L \) are the midpoints of the sides of \( \triangle XYZ \).

10. Find \( LK \).

To start, identify what kind of segment \( LK \) is. Then identify which relationship in the Triangle Midsegment Theorem will help you find the length.

\( LK \) is a midsegment of \( ? \).
\( LK \) is parallel to \( ? \).

11. Find \( YK \).
12. Find \( JK \).
13. Find \( XK \).
14. Find \( JL \).
15. Find \( YL \).
16. Find \( KL \).

17. Draw a triangle and label it \( ABC \). Draw all the midpoints and label them. Identify pairs of parallel sides and congruent angles in your triangle.
Algebra Find the value of \( x \).

18. To start, identify the midsegment. Then write an equation to show that its length is half the length of its parallel segment.

The segment with length \( \square \) is the midsegment.

\[
\square = \frac{1}{2} \cdot \square
\]

19. \[ 6x \]

20. \[ 3x \]

21. \[ 2x + 1 \]

22. \[ 21 \]

23. \( X \) is the midpoint of \( MN \). \( Y \) is the midpoint of \( ON \).

Find \( XZ \).

24. If \( XY = 10 \), find \( MO \).

25. If \( m \angle M = 64 \), find \( m \angle XYZ \).

Use the diagram at the right for Exercises 26 and 27.

26. What is the distance across the lake?

27. Is it a shorter distance from \( A \) to \( B \) or from \( B \) to \( C \)? Explain.
Identify three pairs of parallel sides in the diagram.

1. $\overline{AB} \parallel ? \quad \overline{XZ}$
2. $\overline{BC} \parallel ? \quad \overline{YX}$
3. $\overline{AC} \parallel ? \quad \overline{YZ}$

Name the side that is parallel to the given side.

4. $\overline{MN} \quad \overline{BC}$
5. $\overline{ON} \quad \overline{AC}$
6. $\overline{AB} \quad \overline{MO}$
7. $\overline{CB} \quad \overline{MN}$
8. $\overline{OM} \quad \overline{AB}$
9. $\overline{AC} \quad \overline{ON}$

Points $J$, $K$, and $L$ are the midpoints of the sides of $\triangle XYZ$.

10. Find $LK$. 6

To start, identify what kind of segment $\overline{LK}$ is. Then identify which relationship in the Triangle Midsegment Theorem will help you find the length.

$\overline{LK}$ is a midsegment of $\triangle XYZ$.

11. Find $YK$. 10

12. Find $JK$. 7

13. Find $XK$. 10

14. Find $JL$. 10

15. Find $YL$. 7

16. Find $KL$. 6

17. Draw a triangle and label it $ABC$. Draw all the midpoints and label them. Identify pairs of parallel sides and congruent angles in your triangle.
   Check students’ work.
Algebra  Find the value of $x$.

18. To start, identify the midsegment. Then write an equation to show that its length is half the length of its parallel segment.

The segment with length $6$ is the midsegment.

$$6 = \frac{1}{2} \cdot 2x$$

19. 

20. 

21. $X$ is the midpoint of $MN$. $Y$ is the midpoint of $ON$.

23. Find $XZ$. 9

24. If $XY = 10$, find $MO$. 20

25. If $m\angle M$ is 64, find $m\angle XYZ$. 64

Use the diagram at the right for Exercises 26 and 27.

26. What is the distance across the lake?
   5.5 mi

27. Is it a shorter distance from $A$ to $B$ or from $B$ to $C$? Explain. $B$ to $C$ is shorter; $BC$ is half of 8 mi, while $AB$ is half of 11 mi.