Name Answers Date

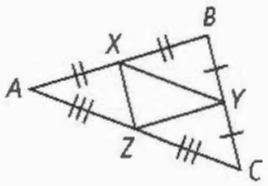
5.1 –Midsegments of Triangles

Name the segment that is parallel to the given segment.

1) $\overline{AB}$ $\overline{ZY}$

2) $\overline{XY}$ $\overline{AC}$

3) $\overline{CB}$ $\overline{ZX}$



Points M, N, and P are the midpoints of the sides of ΔQRS. $QR = 30$, $RS = 30$, and $SQ = 18$.

4) Find MN. 9

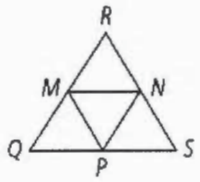
5) Find MQ. 15

6) Find MP. 15

7) Find PS. 9

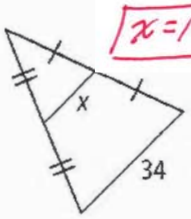
8) Find PN. 15

9) Find RN. 15

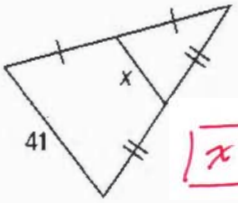


Find the value of x.

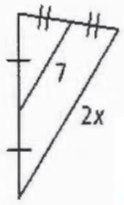
10) $x = 17$



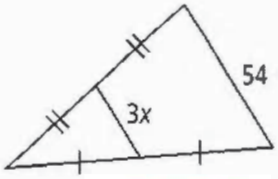
11) $x = 20.5$



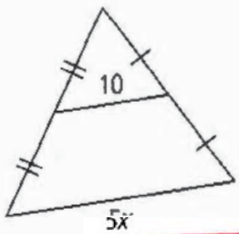
12) $x = 7$



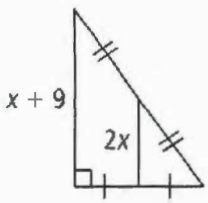
13) $x = 9$



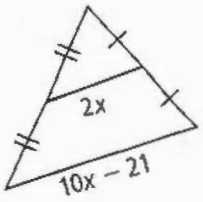
14) $x = 4$



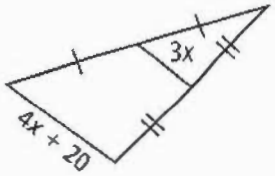
15) $x = 25.5$

16) 

$x = 3$

17) 

$x = 3.5$

18) 

$x = 10$

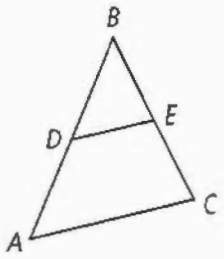
D is the midpoint of $\overline{AB}$. E is the midpoint of $\overline{CB}$.

19) If $m\angle A = 70$, find $m\angle BDE$. 70

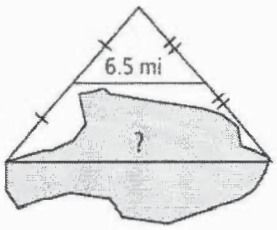
20) If $m\angle BED = 73$, find $m\angle C$. 73

21) If $DE = 23$, find AC. 46

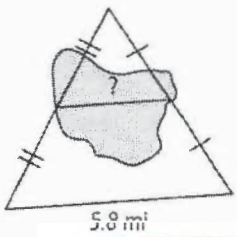
22) If $AC = 83$, find DE. 41.5



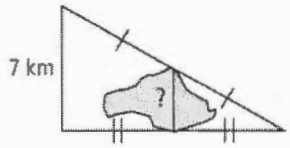
Find the distance across the lake in each diagram.

23) 

13 mi

24) 

2.9 mi

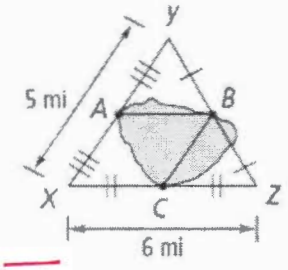
25) 

3.5 km

Use the diagram at the right.

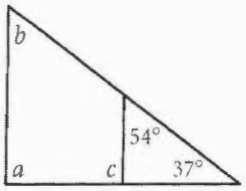
26) Which segment is shorter for kayaking across the lake, $\overline{AB}$ or $\overline{BC}$? Explain. $\overline{BC}$. It's half of 5mi.

27) Which distance is shorter, kayaking from A to B to C, or walking from A to X to C? Explain.

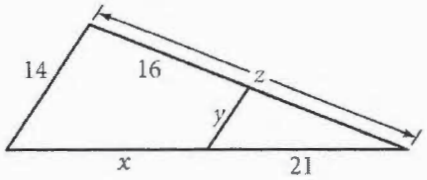


Neither. It's the same. $\overline{BC} \cong \overline{AX}$ and $\overline{AB} \cong \overline{XC}$

28) $a =$ 89°, $b =$ 54°, $c =$ 91°



29) $x =$ 21, $y =$ 7, $z =$ 32



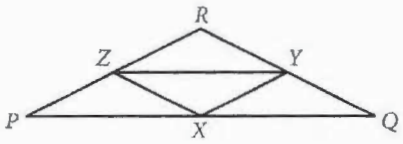
Complete the following.

30) x, y, and z are midpoints. Perimeter $\triangle PQR = 132$, $RQ = 55$, and $PZ = 20$.

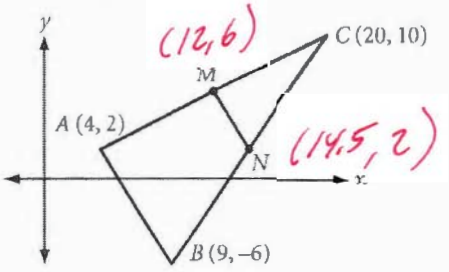
Perimeter $\triangle XYZ =$ 66

$PQ =$ 37

$ZX =$ 27.5



31) $\overline{MN}$ is the midsegment. Find the coordinates of M and N. Find the slopes of $\overline{AB}$ and $\overline{MN}$.



$\text{Slope}_{AB} = \frac{-6-2}{9-4} = \frac{-8}{5} = -1.6$

$\text{Slope}_{MN} = \frac{2-6}{14.5-12} = \frac{-4}{2.5} = -1.6$