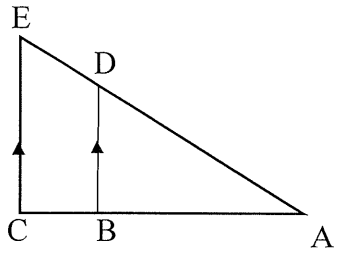
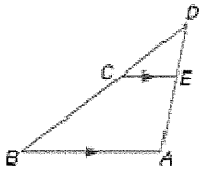
**Geometry**
**Triangle Proportionality and Midsegment**

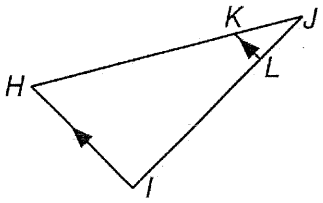
# 7.4a Triangle Proportionality Theorem




Ex) **1.** ***CB*** **18,** ***DC*** **= 6, and** ***EA*** **= 27. Find** ***DE.***



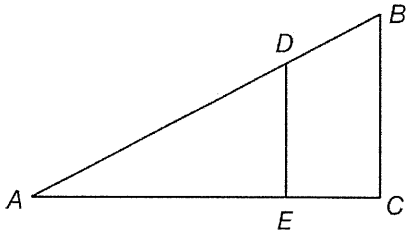

**2.** If $JK = 7$, $KH = 21$, and $JL = 6$, find $LI$.




**Ex) Determine whether $\overline{BC} \parallel \overline{DE}$. Justify your answer.**

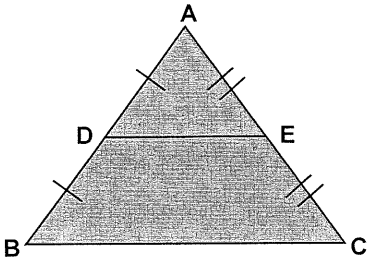
**3.** $AD = 15$, $DB = 12$, $AE = 10$, and $EC = 8$

**4.** $BD = 9$, $BA = 27$, and $CE = \frac{1}{3} EA$

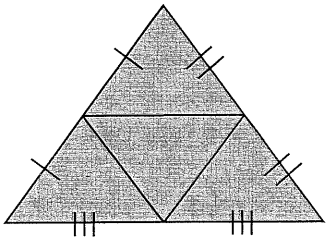


# Midsegments of Triangles

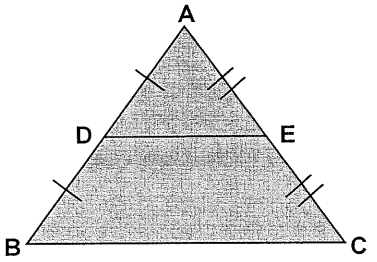
**Midsegment:**




**Conjecture:**



**Theorem:**

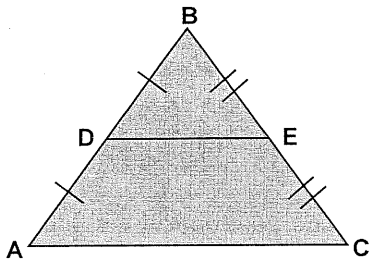



## Guided Practice:

**1.** (a) If AC = 20, then DE = _____.

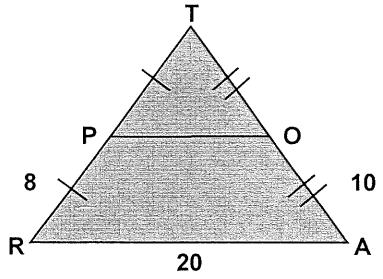
(b) If DE = 6, then AC = _____.

(c) If DE = x + 6 and AC = 3x + 4, then x = _____.



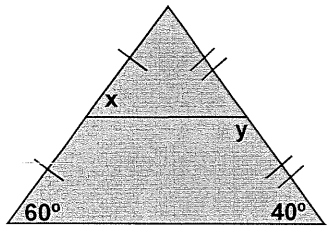
**Geometry**
**Triangle Proportionality and Midsegment**

**2.** Find the perimeter of ΔTOP.

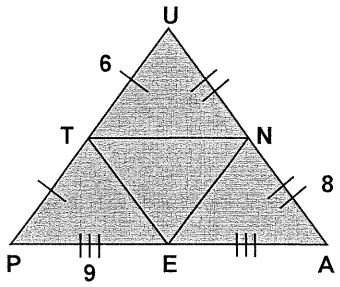



**3.** Find the missing angle measures.

x = _____ y = _____

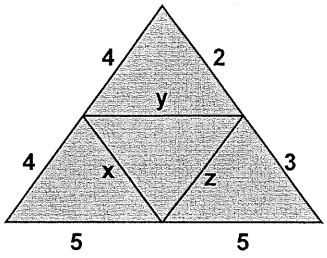



**4.** Find the perimeter of ΔTEN.

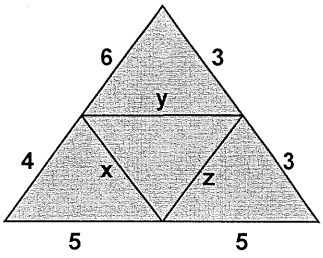



**5.** Exactly one of the values x, y, or z can be determined. Find it.

(a)




(b)

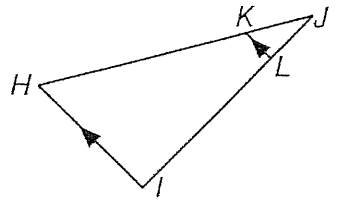


NAME _____ DATE Tues Nov 3 PERIOD _____

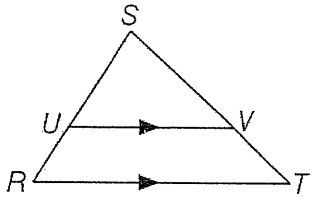
# 7-4 Skills Practice

## Parallel Lines and Proportional Parts

1. If $JK = 7$, $KH = 21$, and $JL = 6$, find $LI$.



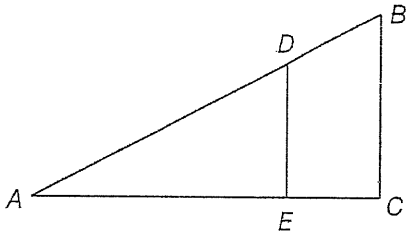

2. If $RU = 8$, $US = 14$, $TV = x - 1$, and $VS = 17.5$, find $x$ and $TV$.




**Determine whether $\overline{BC} \parallel \overline{DE}$. Justify your answer.**

3. $AD = 15$, $DB = 12$, $AE = 10$, and $EC = 8$

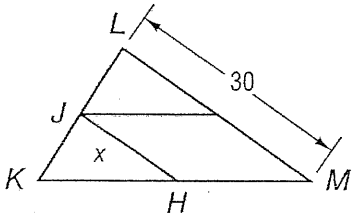
4. $BD = 9$, $BA = 27$, and $CE = \frac{1}{3} EA$



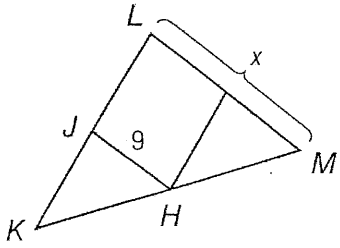

5. $AE = 30$, $AC = 45$, and $AD = 2DB$

**$\overline{JH}$ is a midsegment of $\triangle KLM$. Find the value of $x$.**

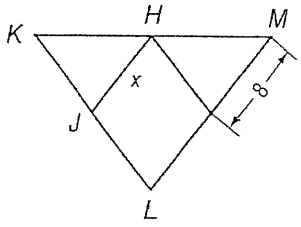
6.




7.

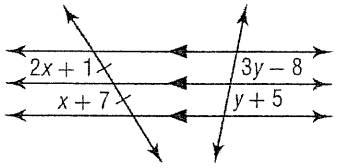



8.

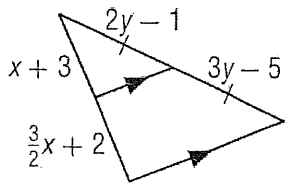



**ALGEBRA Find $x$ and $y$.**

9.




10.

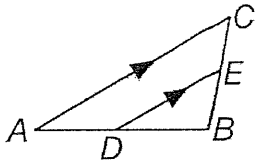


NAME _____ DATE _____ PERIOD _____

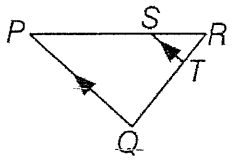
# 6-4 Practice

## Parallel Lines and Proportional Parts

**1.** If $AD = 24$, $DB = 27$, and $EB = 18$, find $CE$.

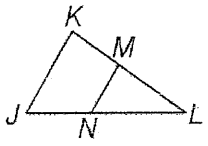



**2.** If $QT = x + 6$, $SR = 12$, $PS = 27$, and $TR = x - 4$, find $QT$ and $TR$.




**Determine whether $\overline{JK} \parallel \overline{NM}$. Justify your answer.**

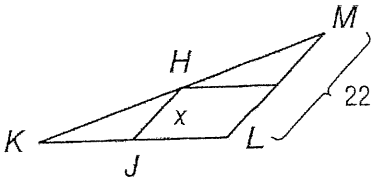
**3.** $JN = 18$, $JL = 30$, $KM = 21$, and $ML = 35$



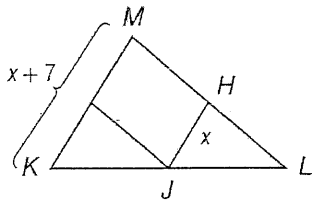

**4.** $KM = 24$, $KL = 44$, and $NL = \frac{5}{6}JN$

**$\overline{JH}$ is a midsegment of $\triangle KLM$. Find the value of $x$.**

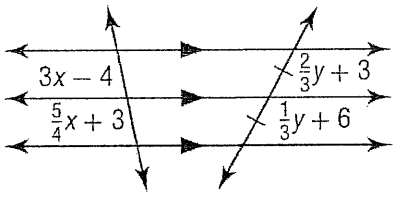
**6.**



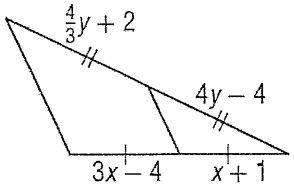

**7.**




**7.** Find $x$ and $y$.




**8.** Find $x$ and $y$.




**9. MAPS** On a map, Wilmington Street, Beech Drive, and Ash Grove Lane appear to all be parallel. The distance from Wilmington to Ash Grove along Kendall is 820 feet and along Magnolia, 660 feet. If the distance between Beech and Ash Grove along Magnolia is 280 feet, what is the distance between the two streets along Kendall?