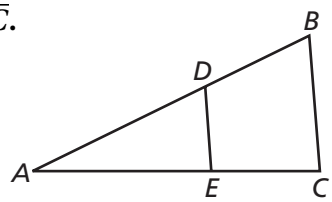
Name _____ Class _____ Date _____

Additional Practice

Lesson 4.10

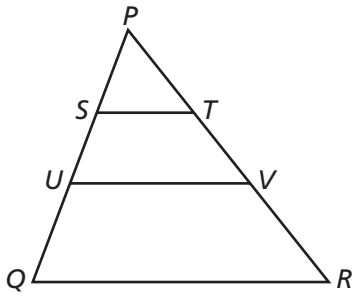
Use the figure for Exercises 1–10. In Exercises 1–9, $\overline{DE} \parallel \overline{BC}$.



not to scale

1. When $AD = 15$, $DB = 9$, and $AE = 10$, what is EC?
2. When $AE = 18$, $EC = 12$, and $BC = 20$, what is DE?
3. When $AD = 9$, $BC = 24$, and $DE = 8$, what is AB?
4. When $AD = 8$, $AE = 10$, and $AB = 15$, what is AC?
5. When EC is half of AE, and $DE = 2.4$, what is BC?
6. When EC is 1.5 times AE, and $BC = 60$, what is DE?
7. When $DE = 12$, $BC = 15$, and $AC = 24$, what is EC?
8. When $AD = 14$ and $BD = 21$, what is the value of $\frac{DE}{BC}$?
9. When $AD = 15$, $AE = 12$, and $EC = 10$, what is the value of $\frac{BC}{DE}$?
10. Suppose you do not know whether $\overline{DE} \parallel \overline{BC}$, but you do know that $AD = 24$, $AC = 48$, $AE = 18$, and $DB = 40$. Is $\overline{DE} \parallel \overline{BC}$? Explain.

Use the figure for Exercises 11–19. In Exercises 11–18, $\overline{ST} \parallel \overline{UV}$, $\overline{UV} \parallel \overline{QR}$, and $\overline{ST} \parallel \overline{QR}$.



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11. When $PS = 9$, $PU = 17$, and $TV = 6$, what is PT?
12. When $PS = k$, $SU = 10$, $TV = 15$, and $UQ = 18$, what is VR?
13. When $PS = 90$, $SU = 18$, and $PT = 110$, what is TV?
14. When $UV = 32$, $PV = 44$, and $PT = 8$, what is ST?
15. When $PS = 6$, $SU = 7$, $UQ = 8$, and $TR = 21$, what is PR?
16. When $PT = 7$ and $TR = 21$, what is the value of $\frac{ST}{QR}$?
17. When $SQ = 50$, $QU = 30$, and $VR = 25$, what is the value of $\frac{TV}{VR}$?
18. Is $\frac{PS}{PT} = \frac{PQ}{PR}$? Explain.
19. Suppose you do not know whether $\overline{ST} \parallel \overline{UV}$, $\overline{UV} \parallel \overline{QR}$, or $\overline{ST} \parallel \overline{QR}$, but you do know that $\frac{TV}{SU} = \frac{VR}{UQ}$. Which segments are parallel?