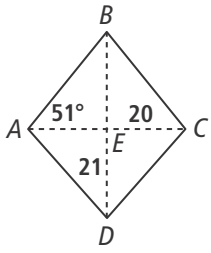
6-2 Additional Practice

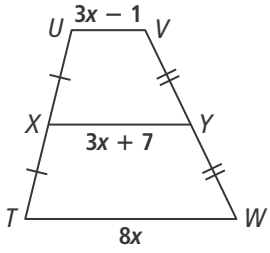
Kites and Trapezoids

Find the missing lengths and angle measures in kite *ABCD*.



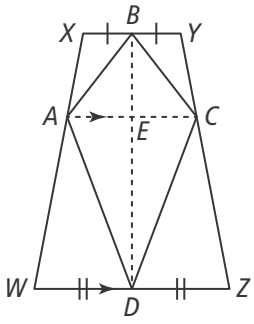
1. *AC* **40**
2. *CD* **29**
3. $m\angle ABE$ **39°**
4. $m\angle BCE$ **51°**

What is the length of each segment in trapezoid *TUVW*?



5. *UV* **8**
6. *XY* **16**
7. *TW* **24**

8. **Understand** Given kite *ABCD* and isosceles trapezoid *WXYZ*, complete a two-column proof to show that $\triangle ADW \cong \triangle CDZ$.



Statement	Reason
1. **$\overline{DW} \cong \overline{DZ}$, $\overline{AC} \parallel \overline{WZ}$**	1. Given
2. $\overline{AD} \cong \overline{CD}$	2. **Definition of kite**
3. **$m\angle AED = 90°$, $m\angle CED = 90°$**	3. Diagonals of a kite are $\perp$.
4. $\overline{ED} \cong \overline{ED}$	4. **Refl. Prop. of $\cong$**
5. **$\triangle ADE \cong \triangle CDE$**	5. HL Thm.
6. $\angle DAE \cong \angle DCE$	6. **CPCTC**
7. **$\angle ADW \cong \angle DAE$, $\angle CDZ \cong \angle DCE$**	7. Alt. Int. $\angle$s Thm.
8. **$\angle ADW \cong \angle CDZ$**	8. Transitive Prop. of $\cong$
9. $\triangle ADW \cong \triangle CDZ$	9. **SAS**

9. **Apply** In Bhutanese architecture, the faces of buildings are trapezoids. If the row of decorative brick shown is 28.5 feet wide, what is the width of the base of the building? **32 feet**