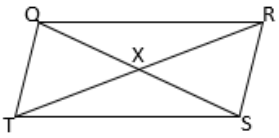
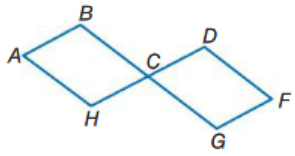
Given: QRST is a parallelogram, X is the midpoint of QS

Prove: Diagonals bisect each other in a parallelogram

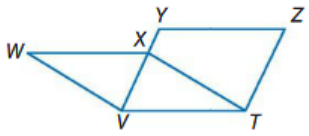


Statement	Reason
QRST is a parallelogram, X is the midpoint of QS	Given
$QT//SR$	Opposite sides of a parallelogram are parallel
$QX \cong SX$	Definition of a Midpoint
$\angle QTX \cong \angle SRX$	AIA
$\angle TQX \cong \angle RSX$	AIA
$\Delta QTX \cong \Delta SRX$	AAS
$TX \cong RX$	CPCTC
X is the midpoint of RT	Definition of a Midpoint
∴Diagonals bisect each other	Definition of a Bisector

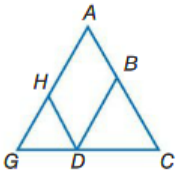
8. two-column
Given: *ABCH* and *DCGF* are parallelograms.
Prove: $\angle A \cong \angle F$



23. **Given:** *WXTV* and *ZYVT* are parallelograms.
Prove: $\overline{WX} \cong \overline{ZY}$

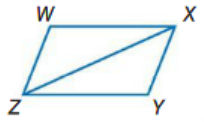


24. **Given:** $\square BDHA, \overline{CA} \cong \overline{CG}$
Prove: $\angle BDH \cong \angle G$

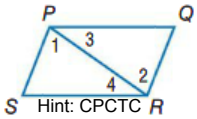


Hint: Isosceles Triangle

27. two-column
Given: $\square WXYZ$
Prove: $\Delta WXZ \cong \Delta YZX$
(Theorem 6.8)

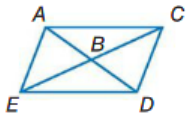


28. two-column
Given: $\square PQRS$
Prove: $\overline{PQ} \cong \overline{RS}, \overline{QR} \cong \overline{SP}$
(Theorem 6.3)



Hint: CPCTC

29. paragraph
Given: $\square ACDE$ is a parallelogra
Prove: $\overline{EC}$ bisects $\overline{AD}$.
(Theorem 6.7)



20. **Given:** *ABCD* is a rectangle.
Prove: $\Delta ADC \cong \Delta BCD$