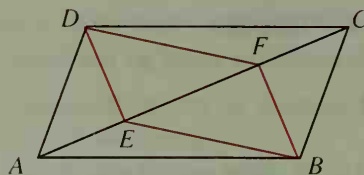
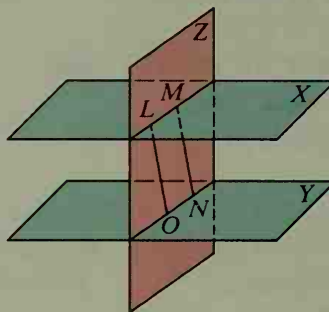


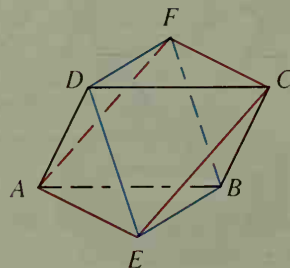
23. Given: $\square ABCD$;
 $\overline{DE} \perp \overline{AC}$; $\overline{BF} \perp \overline{AC}$
 Prove: $DEBF$ is a \square .



24. Given: Plane $X \parallel$ plane Y ;
 $\overline{LM} \cong \overline{ON}$
 Prove: $LMNO$ is a \square .



- C** 25. Write a paragraph proof.
 Given: $\square ABCD$; $\square BEDF$
 Prove: $AECF$ is a \square .
 (Hint: A short proof is possible if certain auxiliary segments are drawn.)



Explorations

These exploratory exercises can be done using a computer with a program that draws and measures geometric figures.

Draw any $\triangle ABC$. Label the midpoint of \overline{AB} as D . Draw a segment through D parallel to \overline{BC} that intersects \overline{AC} at E . Measure AE and EC . What do you notice?

Draw any $\triangle ABC$. Label the midpoints of \overline{AB} and \overline{AC} as D and E , respectively. Draw \overline{DE} . Measure $\angle AED$ and $\angle ACB$. What do you notice? What is true of \overline{DE} and \overline{BC} ? Measure DE and BC . What do you notice?

Write an equation that relates DE and BC . Repeat the drawing and measurements until you are sure of your equation.

