LESSON 8.6

NAME _____ DATE _____

Technology Activity Keystrokes

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TI-92

Construct

1. Draw $\triangle ABC$.

F3 3 (Place cursor at desired location for point A.) ENTER A (Move cursor to location for point B.) ENTER B (Move cursor to location for point C.) ENTER C

2. Draw point D on $\overline{AB}$.

F2 2 (Place cursor on $\overline{AB}$.) ENTER D

3. Draw a line through D that is parallel to $\overline{AC}$.

F4 2 (Place cursor on D) ENTER (Move cursor to $\overline{AC}$.) ENTER

Label the intersection of the parallel line and $\overline{BC}$ as point E.

F2 3 (Place cursor on intersection point.) ENTER E

Investigate

1. Measure $\overline{BD}$, $\overline{DA}$, $\overline{BE}$, and $\overline{EC}$.

F6 1 (Place cursor on B.) ENTER (Move cursor to D.) ENTER

Repeat this process for the other segments.

Calculate the ratios $\frac{BD}{DA}$ and $\frac{BE}{EC}$.

F6 6 (Use cursor to highlight the length of $\overline{BD}$.) ENTER ÷ (Use cursor to highlight the length of $\overline{DA}$.) ENTER ENTER (Use cursor to highlight the length of $\overline{BE}$.) ENTER ÷ (Use cursor to highlight the length of $\overline{EC}$.) ENTER ENTER

2. Drag DE to different locations.

F1 1 (Place cursor on $\overline{DE}$.) ENTER

(Use the drag key  and the cursor pad to drag $\overline{DE}$.)

Construct

4. Draw $\triangle PQR$.

F3 3 (Place cursor at location for point P.) ENTER P (Move cursor to location for point Q.) ENTER Q (Move cursor to location for point R.) ENTER R

5. Construct the angle bisector of $\angle QPR$.

F4 5 (Place cursor on point Q.) ENTER (Move cursor to point P.) ENTER (Move cursor to point R.) ENTER

Label the intersection of the angle bisector and $\overline{QR}$ as point B.

F2 3 (Place cursor on the intersection point.) ENTER B

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Investigate

5. Measure $\overline{BR}$, $\overline{RP}$, $\overline{BQ}$, and $\overline{QP}$.

F6 1 (Place cursor on point B.) ENTER (Move cursor to point R.) ENTER

Repeat this process for the other segments.

Calculate the ratios $\frac{BR}{RP}$ and $\frac{RP}{QP}$.

F6 6 (Use cursor to highlight the length of $\overline{BD}$.) ENTER ÷ (Use cursor to highlight the length of $\overline{DA}$.) ENTER ENTER (Use cursor to highlight the length of $\overline{BE}$.) ENTER ÷ (Use cursor to highlight the length of $\overline{EC}$.) ENTER ENTER

SKETCHPAD

Construct

1. Draw $\triangle ABC$. Select segment from the straightedge tools and draw three segments to make up the triangle.

2. Draw point D on $\overline{AB}$ using the point tool.

3. Draw a line through D that is parallel to $\overline{AC}$. Using the selection arrow tool, select D, hold down the shift key, and select $\overline{AC}$. Choose **Parallel Line** from the **Construct** menu. Plot intersection point E of the parallel line and $\overline{BC}$ using the point tool.

Investigate

1. Measure $\overline{BD}$, $\overline{DA}$, $\overline{BE}$, and $\overline{EC}$. Using the selection arrow tool, select the endpoints of a segment and then choose **Distance** from the **Measure** menu.

Calculate the ratios $\frac{BD}{DA}$ and $\frac{BE}{EC}$. Choose **Calculate** from the **Measure** menu.

Click the measure of $\overline{BD}$, click the division sign, click the measure $\overline{DA}$, and click OK. Repeat for the other ratio.

2. Drag $\overline{DE}$ to different locations using the translate selection arrow tool.

Construct

3. Draw $\triangle PQR$. Choose segment from the straightedge tools. To relabel the points, select the text tool and double click each point.

4. Construct the angle bisector of $\angle QPR$. Using the selection arrow tool, select points P, Q, and R. Choose **Angle Bisector** from the **Construct** menu. Label the intersection of the angle bisector and $\overline{QR}$ as point B using the point tool.

Investigate

5. Measure $\overline{BR}$, $\overline{RP}$, $\overline{BQ}$, and $\overline{QP}$. Using the selection arrow tool, select the endpoints of a segment. Choose **Distance** from the **Measure** menu.

Calculate the ratios $\frac{BR}{RP}$ and $\frac{RP}{QP}$. Choose **Calculate** from the **Measure** menu.

Click the measure of $\overline{BR}$, click the division sign, click the measure of $\overline{RP}$, and click OK. Repeat for the other ratio.