NAME _____ DATE _____

Technology Activity Keystrokes

For use with page 286

TI-92

Construct

1. Draw triangle *ABC*.

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

2. Draw the bisector $\overrightarrow{BD}$ of angle *ABC*.

F4 5 (Place cursor on point *A*.) **ENTER** (Place cursor on point *B*.) **ENTER**
(Place cursor on point *C*.) **ENTER**

F2 3 (Place cursor on intersection point of angle bisector and $\overline{AC}$.) **ENTER** D
Draw the angle bisector $\overrightarrow{CE}$ of angle *BCA*.

F4 5 (Place cursor on point *B*.) **ENTER** (Place cursor on point *C*.) **ENTER**
(Place cursor on point *A*.) **ENTER**

F2 3 (Place cursor on intersection point of angle bisector and $\overline{AB}$.) **ENTER** E

3. Label the intersection point of the two angle bisectors as point *F*.

F2 3 (Place cursor on intersection point of angle bisectors $\overrightarrow{BD}$ and $\overrightarrow{CE}$.) **ENTER** F

4. Draw a ray from point *A* that passes through point *F*.

F2 6 (Place cursor on *A*.) **ENTER** (Place cursor on *F*.) **ENTER**

Investigate

1. Measure angles *BAF* and *CAF*.

F6 3 (Place cursor on point *B*.) **ENTER** (Place cursor on point *A*.) **ENTER**
(Place cursor on point *F*.) **ENTER** Repeat for ∠*CAF*.

Construct

5. Draw triangle *ABC* (start a new geometry session). See Construct Step 1.

6. Locate the midpoint of $\overline{BC}$ and label it *D*, and locate the midpoint of $\overline{AC}$ and label it *E*.

F4 3 (Put cursor on $\overline{BC}$.) **ENTER** D (Put cursor on $\overline{AC}$.) **ENTER** E

7. Draw the medians $\overline{AD}$ and $\overline{BE}$.

8. Locate the intersection point of the medians *F*.

9. Draw a ray from point *C* that passes through point *F*. Label the intersection
of $\overrightarrow{CF}$ and $\overline{AB}$ as point *G*.

Investigate

3. Construct $\overline{AG}$ and $\overline{BG}$. Measure segments *AG* and *BG*.

F6 1 (Place cursor on segment *AG*.) **ENTER** (Place cursor on segment *BG*.) **ENTER**

5. Construct $\overline{AF}$. Measure $\overline{AD}$ and $\overline{AF}$. Calculate $\dfrac{AD}{AF}$.

F6 6 (Cursor to length of $\overline{AD}$.) **ENTER** ÷ (Cursor to length of $\overline{AF}$.) **ENTER** **ENTER**
(The result will appear on the screen.)

LESSON
5.3
CONTINUED

NAME _____ DATE _____

Technology Activity Keystrokes
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6. Drag point *A* to change the triangle.

SKETCHPAD

Construct

1. Draw triangle *ABC*. Choose the segment straightedge tool and draw three segments to construct triangle *ABC*.

2. Draw angle bisector $\overrightarrow{BD}$ of ∠*ABC* and angle bisector $\overrightarrow{CE}$ of ∠*BCA*. Choose the translate selection arrow tool and select point *A*. Then hold down the shift key and select points *B* and *C*. Choose **Angle Bisector** from the **Construct** menu. Use the point tool to construct intersection point D. Repeat these steps for angle bisector $\overrightarrow{CE}$ of ∠*BCA*.

3. Draw the intersection point of the two angle bisectors, point *F*, using the point tool.

4. Draw a ray from point *A* that passes through point *F*. Choose the ray straightedge tool, and construct ray *AF*.

Investigate

1. Measure ∠*BAF* and ∠*CAF*. To measure ∠*BAF*, choose the translate selection arrow tool and select point *B*. Hold the shift key down and select points *A* and *F*. Then choose **Angle** from the **Measure** menu. Repeat for ∠*CAF*. Before selecting the next angle, be sure to click anywhere in the work area to deselect the previous points. Choose the translate selection arrow tool, select $\overline{BC}$, hold down the shift key, and select $\overline{AC}$.

Construct

5. Draw triangle *ABC*. See Construct Step 1.

6. Locate the midpoint of $\overline{BC}$ and label it *D*, and locate the midpoint of $\overline{AC}$ and label it *E*. Choose **Point at Midpoint** from the **Construct** menu.

7. Draw the medians $\overline{AD}$ and $\overline{BE}$ using the segment straightedge tool.

8. Draw the intersection point of the medians, point *F*, using the point tool.

9. Draw a ray from point *C* that passes through point *F* using the ray straightedge tool.

Construct the intersection of $\overrightarrow{CF}$ and $\overline{AB}$, point *G*, using the point tool.

Investigate

3. Construct and measure $\overline{AG}$ and $\overline{BG}$. Choose the straightedge tool to draw $\overline{AG}$ and $\overline{BG}$. Use the selection arrow tool to select $\overline{AG}$ and $\overline{BG}$. Choose **Length** from the **Measure** menu.

5. Construct $\overline{AF}$ using the segment straightedge tool. Measure $\overline{AD}$ and $\overline{AF}$ (see Investigate Step 3). Calculate $\dfrac{AD}{AF}$. Choose **Calculate** from the **Measure** menu. Click on the measure of $\overline{AD}$, click "/", and click on the measure of $\overline{AF}$. Click OK.

6. Drag point *A* to change the triangle.