

Name _____

Honors Pre-Calculus Half-Test (35 minutes)

Block (please circle) D G

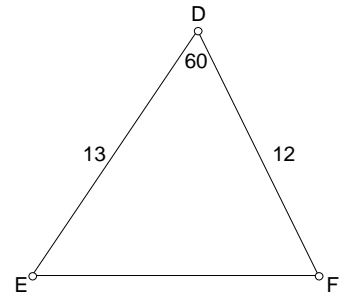
Sections 5.5–5.6

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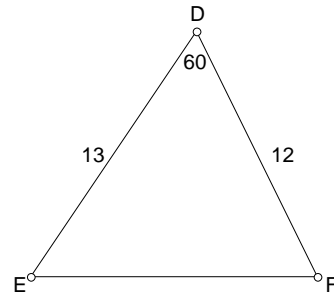
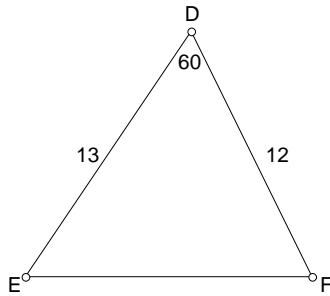
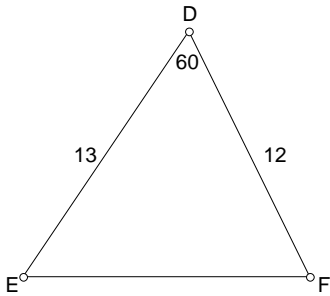
- 1. (50% of grade)** Given $\triangle DEF$ with measurements as shown, calculate the quantities listed below. Express all answers to the nearest hundredth (to preserve accuracy, don't round off before the final answer). If there is more than one correct answer, give all possible answers.

You do not have to show your work. Duplicate copies of the triangle are printed below for your convenience.



answers

- a. the degree measure of $\angle F$
- b. the length of side EF
- c. the length of the median from vertex D
- d. the length of the altitude from vertex D
- e. the area of the circumscribed circle of $\triangle DEF$



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2. (25%) In $\triangle ABC$ with the usual notation, suppose $a = 6$, $b = 12$, and $\angle A = 22^\circ$. There are two possibilities for the remaining measurements of the triangle. Calculate these measurements, showing your work in an organized way. Then, sketch both possible triangles, labeled with all their side lengths and angle measures.

3. (25%) Quadrilateral PQRS is inscribed in a circle. Its side lengths are $PQ = 2$, $QR = 3$, $RS = 4$, and $SP = 5$. Show your work as you perform the following calculations.

a. Calculate the measure of $\angle PQR$.

b. Calculate length PR.

c. Calculate the area of quadrilateral PQRS.