5.2 Bisectors in Triangles Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Learning Targets** | **Help!** | **I’m getting there…** | **I’m almost there…** | **Yes! I totally got this! ☺** |
| 1. I can define equidistant. |  |  |  |  |
| 2. I can apply the Perpendicular Bisector Theorem. |  |  |  |  |
| 3. I can apply the Converse of the Perpendicular Bisector Theorem. |  |  |  |  |
| 4. I can apply the Angle Bisector Theorem. |  |  |  |  |
| 5. I can apply the Converse of the Angle Bisector Theorem. |  |  |  |  |
| 6. I can define median of a triangle. |  |  |  |  |
| 7. I can define altitude of a triangle. |  |  |  |  |



Equidistant: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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Perpendicular Bisector: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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C

A

B

D

\*Consider the following proof:

Given:  is the perpendicular bisector of 



Prove: 



|  |  |
| --- | --- |
| Statements | Reasons |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |
| 5. | 5. |
| 6. | 6. |
| 7. | 7. |



Perpendicular Bisector Theorem: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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Converse of the Perpendicular Bisector Theorem: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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Ex 1:  is a perpendicular bisector. Find DS



D

O

S

G



3x + 10

5x - 6



E



Ex 2:  is the perpendicular bisector of .



B

P

H

Determine if the following are true or



R

false.



a. 



b. R is the midpoint of 



c. 



Angle Bisector Theorem: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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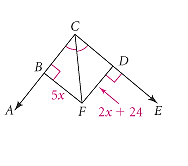


Converse of the Angle Bisector Theorem: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Ex 3: Find the value of x, then find FD and FB.



Median of a Triangle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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Altitude of a Triangle: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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Ex 4: What are the coordinates of the endpoints of the midsegment of ΔDEF parallel to ?



E (-3, -4)

(6, -2)

(-2, 4)

I

H

G

F

D