**Chapter 4 Investigation**

**Look in chapter for of the book to find most of the information.**

**1) What are the *four* ways to CLASSIFY triangles by angle measures?**

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**2) What are the *three* ways to CLASSIFY triangles by side lengths?**

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**3) Explain the differences between classifying triangles by their angle measures as opposed to their side lengths.**

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**4) In the following triangle, what does mean?**

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**5) In the following triangle, what does mean?**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**6) What is the SUM of the interior angles of ANY triangle? How do you know? Where did you find it?**

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**7) Find the measure of angle ABC = \_\_\_\_\_\_\_\_\_\_\_**

**For #8-10, use the figure to the right, classify each triangle by their ANGLE MEASURES.**

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**8) Classify** $∆FHG$ **: \_\_\_\_\_\_\_\_\_\_\_\_**

**9) Classify** $∆GHE$ **: \_\_\_\_\_\_\_\_\_\_\_\_**

**10) Classify** $∆HFE$ **: \_\_\_\_\_\_\_\_\_\_\_**

**For #11-13, use the figure to the right, classify each triangle by their SIDE LENGTHS.**

**11) Classify** $∆CBA$**: \_\_\_\_\_\_\_\_\_\_\_\_**

**12) Classify** $∆DBA$**: \_\_\_\_\_\_\_\_\_\_\_\_**

**13) Classify** $∆ACD$**: \_\_\_\_\_\_\_\_\_\_\_\_**

**14) Find the side lengths of *equilateral* triangle** $∆FGH$**.**

**\*\*If segments are congruent, aren’t they also equal? If they are equal, can’t you set them equal to each other?\*\***

**FG = \_\_\_\_\_**

**FH = \_\_\_\_\_**

**GH = \_\_\_\_\_**