# **NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_PER.\_\_\_\_\_\_\_**

## **CHAPTER 6 TEST REVIEW**

**5 points added to your test, if complete!**

### PART 1: IMPORTANT GEOMETRIC TERMS

**Write a thorough definition and draw a picture for each of the following geometric terms.**

|  |  |
| --- | --- |
| 1. Perpendicular Bisector
 |  |
| 1. Angle Bisector
 |  |
| 1. Midsegment
 |  |
| 1. Altitude
 |  |
| 1. Median
 |  |
| 1. Orthocenter
 |  |
| 1. Centroid
 |  |

PART 2: SIMPLIFYING RADICALS

**Simplify the following.**

|  |  |
| --- | --- |
| 1. $\sqrt{441}$
 | 1. $-2\sqrt{45}+2\sqrt{8}+2\sqrt{20}$
 |
| 1. $3\sqrt{15}∙-2\sqrt{12}$
 | 1. $\sqrt{10}\left(\sqrt{2}+4\right)$
 |
| 1. $\frac{5\sqrt{8}}{\sqrt{36}}$
 | 1. $\frac{\sqrt{5}}{\sqrt{15}}$
 |
| 1. $-\sqrt{24}+3\sqrt{5}+3\sqrt{5}$
 | 1. $3\sqrt{2}-\sqrt{2}$
 |
| 1. $4\sqrt{7}+2\sqrt{3}-4\sqrt{7}$
 | 1. $\frac{\sqrt{2}}{4\sqrt{5}}$
 |
| 1. $\left(-4\sqrt{15}\right)\left(-2\sqrt{3}\right)$
 | 1. $4\sqrt{112}$
 |
| 1. $2\sqrt{90}$
 | 1. $\sqrt{50}$
 |

PART 3: PERPENDICULAR AND ANGLE BISECTORS

**Find the following.**

|  |  |
| --- | --- |
| 1. $x=$ \_\_\_\_\_\_\_\_\_\_
 | $$-9+7x$$$$1+5x$$ |
| $$-1+4x$$$$D$$$$A$$$$6x-15$$$$C$$$$B$$1. $BC=$ \_\_\_\_\_\_\_\_\_\_
 |  |
| 1. $x=$ \_\_\_\_\_\_\_\_\_\_

 $m∠ABC=$ \_\_\_\_\_\_­­\_\_\_$$D$$$$A$$$$C$$$$B$$ | $$\left(12+4x\right)°$$$$D$$$$A$$$$\left(5x+5\right)°$$$$C$$$$B$$ |
| 1. $m∠DAC=$ \_\_\_\_\_\_­­\_\_\_
 | $$m∠DAB=37°$$ |

**PART 4: TRIANGLE MIDSEGMENTS**

**In 26-30, use** $∆QRS$ **where** $A$**,** $B$**, and** $C$ **are the midpoints of the sides.**

|  |  |
| --- | --- |
| 1. $AR=$ \_\_\_\_\_\_\_\_\_\_\_
 | $$QA = 20$$Find $AR$.TA: C:\cur_proj\July 2014\AB art\book\Arts\PNGs\HSGeom_rbc_0604_006.png |
| 1. $AB=$ \_\_\_\_\_\_\_\_\_\_\_
 | $$QS=32$$Find $AB$.TA: C:\cur_proj\July 2014\AB art\book\Arts\PNGs\HSGeom_rbc_0604_006.png |
| 1. $x=$ \_\_\_\_\_\_\_\_\_\_\_\_
 | $CA=6x$ and $SR=6x+6$Find the value of $x$.TA: C:\cur_proj\July 2014\AB art\book\Arts\PNGs\HSGeom_rbc_0604_006.png |
| 1. $m∠QRS=$ \_\_\_\_\_\_\_
 | $$m∠QAC=56°$$Find the $m∠QRS$.TA: C:\cur_proj\July 2014\AB art\book\Arts\PNGs\HSGeom_rbc_0604_006.png |
| 1. $m∠QAC=$ \_\_\_\_\_\_\_\_
 | $$m∠QCA=40°$$Find $m∠BAC$.TA: C:\cur_proj\July 2014\AB art\book\Arts\PNGs\HSGeom_rbc_0604_006.png |

**PART 5: INEQULAITIES IN ONE & TWO TRIANGLES**

$$1$$

$$2$$

$$3$$

$$15$$

$$12$$

$$18$$

|  |  |
| --- | --- |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | Write an inequality representing the angles of the triangle in order from smallest to largest. |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | $$A$$$$B$$$$C$$$$70°$$$$65°$$Write an inequality representing the sides of the triangle in order from shortest to longest. |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | Tell whether a triangle can have sides with the given lengths.$$6.2, 8.1, 14.2$$ |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | Tell whether a triangle can have sides with the given lengths.$$5, 5, 15$$ |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | Find the range of values for $x$ if the side lengths of a triangle are: $$4.5, 13.5, x$$ |
| 1. $AD$\_\_\_\_\_\_$BC$

 $m∠KJF$\_\_\_\_\_\_$m∠HJF$ | $$F$$$$K$$$$H$$$$J$$$$23$$$$34$$$$23$$$$35$$Write an inequality comparing the two triangles. $$A$$$$B$$$$C$$$$D$$$$96°$$$$98°$$$$1.5$$$$1.5$$ |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | Write and solve an inequality $$22°$$$$5$$$$\left(5x+7\right)°$$$$4$$for the possible values of 𝑥. $$39$$$$4x-11$$$$98°$$$$85°$$ |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | Write and solve an inequality for the possible values of 𝑥.  |

**A Mishmash of Answers:**

A segment that connects the midpoints of two sides of a triangle

A ray that divides an angle into two congruent angles

Point of intersection of the altitudes

A segment drawn from a vertex perpendicular to the opposite side (also known as height)

A segment that connects the vertex with the midpoint of the opposite side

A line that is perpendicular to a segment at its midpoint

Point of intersection of the three medians

$$1$$

$$6\sqrt{10}$$

$$2\sqrt{3}$$

$$9<x<18$$

$$\frac{11}{4}<x<\frac{25}{2}$$

$80°$

Yes

$$24\sqrt{5}$$

$$21$$

$$7$$

$27$

$$m∠3<m∠2<m∠1$$

$$BC<BA<CA$$

$$<$$

$$16$$

$$\frac{\sqrt{10}}{20}$$

$$20$$

$$74°$$

$$56°$$

$$2\sqrt{2}$$

$$16\sqrt{7}$$

$$\frac{5\sqrt{8}}{6}$$

No

$$2\sqrt{5}+4\sqrt{10}$$

$$-2\sqrt{5}+4\sqrt{2}$$

$$\frac{-7}{5}<x<3$$

$$-36\sqrt{5}$$

$$<$$

$$5$$

$$40°$$

$$\frac{\sqrt{3}}{3}$$

$$5\sqrt{2}$$

$$6\sqrt{5}-2\sqrt{6}$$