
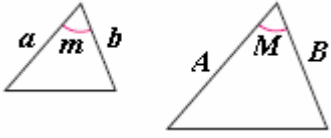
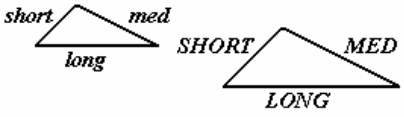


Geometry GT/Pre-AP Unit 6 Focus (and **POW #7**)

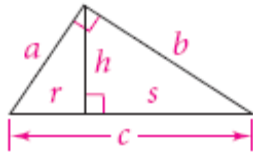
Due: Dec 4 (A) or Dec 5 (B)

Use this review to check your knowledge and skills in each section that will be covered by the test. Most of the examples below are odd-numbered exercises in the Geometry textbook, so you can check the answers for them in the back of the book. (Selected Answers start at page 831.) Work the examples on a separate sheet of paper.

| Students should be able to: | Examples: |
|---|--|
| <p>7-1 Ratios and Proportions</p> <ul style="list-style-type: none"> Solve proportions. Determine whether ratios form a proportion (whether ratios are equal). Set up proportions and solve given a word problem. | <p>Page 369 Exercises:</p> <p># 35, 37, 39 # 27 # 21, 25, 29</p> |
| <p>7-2 Similar Polygons</p> <ul style="list-style-type: none"> Determine whether figures are similar and justify your answer. <ul style="list-style-type: none"> Two polygons are similar if: <ul style="list-style-type: none"> corresponding angles are _____, and corresponding sides are _____. Write a similarity statement and give the similarity ratio. Solve for side lengths, angle measures, or variables given similar figures. Given the maximum dimensions, give the largest possible similar figure. | <p>Page 375 Exercises:</p> <p># 7, 9, 11</p> <p># 13, 15, 33 # 17</p> |
| <p>7-3 Proving Triangles Similar</p> <ul style="list-style-type: none"> Explain why triangles are similar using the following theorems: <ul style="list-style-type: none"> _____ - _____ Similarity Theorem (AA~): If two angles of one triangle are congruent to two angles of another triangle, then the triangles are similar.  are _____ if $\angle m \cong \angle M$ and $\angle n \cong \angle N$. _____ - _____ - _____ Similarity Theorem (SAS~): If an angle of one triangle is congruent to an angle of a second triangle, and the sides including the two angles are proportional, then the triangles are similar.  are _____ if $\angle m \cong \angle M$ and $\frac{a}{A} = \frac{b}{B}$ _____ - _____ - _____ Similarity Theorem (SSS~): If the corresponding sides of two triangles are proportional, then the triangles are similar.  are _____ if $\frac{short}{SHORT} = \frac{med}{MED} = \frac{long}{LONG}$ Write a similarity statement and give the similarity ratio. | <p>Page 386 Exercises:</p> <p># 5-13 odd, 19, 21</p> <p># 25, 27, 31, 33</p> |

7-4 Similarity in Right Triangles

- Use Theorem 7-3 and its corollaries to find the value of variables in right triangles.
 - The altitude to the hypotenuse of a _____ triangle divides the triangle into two triangles that are similar to the original triangle and to each other.



| | Short leg | Medium leg | Hypo-tenuse |
|------------|-----------|------------|-------------|
| Δ_1 | r | h | a |
| Δ_2 | h | s | b |
| Δ_3 | a | b | c |

$$\frac{r}{h} = \frac{h}{b} = \frac{a}{c}$$

$$\frac{h}{b} = \frac{a}{c} = \frac{b}{a}$$

$$\frac{a}{b} = \frac{h}{a} = \frac{a}{c}$$

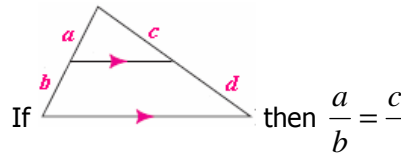
Review the class exercises in the class handout for this section.

The answers are (#15) 9; (#17) 10; (#19) 12; (#35) $x=12\sqrt{5}$, $y=12$, $z=6\sqrt{5}$; (#90) $x=9$, $y=16$; (#92) $x=108$ yd, $y=180$ yd.

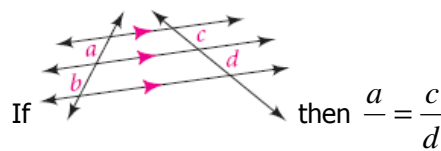
7-5 Proportions in Triangles

- Use the following theorems to solve for variables:

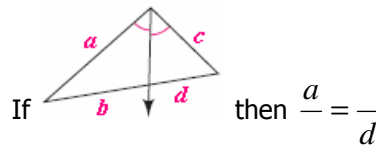
- Side-Splitter Theorem (Theorem 7-4):
If a line is _____ to one side of a triangle and intersects the other two sides, then it divides those sides proportionally.



- Corollary to Theorem 7-4:
If three _____ lines intersect two transversals, then the segments intercepted on the transversals are proportional.



- Triangle-Angle-Bisector Theorem:
If a ray _____ an angle of a triangle, then it divides the opposite side into two segments that are proportional to the other two sides of the triangle.



- Determine whether segments are parallel using the Corollary to Theorem 7-4

Page 400 Exercises:

3

9

13, 15, 29

36, 37

Review of previous units

* Review questions on previous tests from these

textbook sections:

- Translate, reflect, rotate, and dilate a figure on the coordinate plane.
- Find midpoints and segment lengths using the:
 - Midpoint Formula
 - Distance Formula
 - Pythagorean Theorem
- Write the equation of a line using the:
 - Slope Formula
 - Point-Slope form
 - Slope-Intercept form
 - Slope of parallel lines and perpendicular lines
- Use all of the following to find angle measures:
 - Supplementary angles, Complementary angles
 - Angle Bisector
 - Vertical angles, Linear Pairs
 - Corresponding, Alternate Interior, Alternate Exterior, Same-Side Interior, Same-Side Exterior, Parallel lines and Perpendicular lines

9-1 through 9-6

1-8

1-8

8-1

3-6

3-6

3-6

3-7

1-6

1-7

2-5

3-1, 3-2, 3-3