Geometry | Test #4 | Name:_____
Brewer | 9:00am / 2nd Per. | 6 February 2015

Part I – Match the term on the left with its correct definition on the right.
Clearly print letters in the spaces next to each number. (2 points each)

1. _____Similar triangles
2. _____Congruent triangles
3. _____Geometric mean
4. _____Means
5. _____Extremes
6. _____Ratio
7. _____Proportion
8. _____Rectangle
9. _____Rhombus
10. _____Parallelogram
11. _____Square
12. _____Trapezoid
13. _____Isosceles Trapezoid
14. _____Midsegment
15. _____Diagonal

A. a line segment that connects any two nonconsecutive vertices
B. a quadrilateral each of whose angles is a right angle
C. an equality between two fractions (e.g. $\frac{a}{b} = \frac{c}{d}$)
D. a quadrilateral whose opposite sides are parallel
E. a quadrilateral all of whose sides and angles are equal
F. the terms b and c in the equation $\frac{a}{b} = \frac{c}{d}$
G. a line segment that connects the midpoints of two sides of a triangle
H. two triangles such that there is a correspondence between their vertices such that all of their corresponding sides and angles are equal
I. a quadrilateral all of whose sides are equal
J. a fraction comparing two numbers (e.g. $\frac{a}{b}$)
K. two triangles such that there is a correspondence between their vertices such that their corresponding sides are proportional and their corresponding angles are equal
L. a quadrilateral that has exactly one pair of parallel sides
M. the term b in the equation $\frac{a}{b} = \frac{b}{c}$
N. a quadrilateral that has exactly one pair of parallel sides and whose non-parallel sides are equal
O. the terms a and d in the equation $\frac{a}{b} = \frac{c}{d}$

Part II – Complete the statement of the theorem. (2 points each)

16. If two angles of one triangle are equal to two angles of another triangle, the triangles are

_____

17. The ratio of the perimeters of two similar polygons is equal to

_____

18. The ratio of the areas of two similar polygons is equal to

_____

19. If the square of one side of a triangle is equal to the sum of the squares of the other two sides, then the triangle is

_____

20. If a quadrilateral is a trapezoid, then its diagonals cannot

_____

21. A quadrilateral is a parallelogram if two opposite sides are both

_____and _____

22. A quadrilateral is equiangular iff it is a

_____

23. Supplementary interior angles on the same side of a transversal mean that lines are

_____

24. The angles in a linear pair are

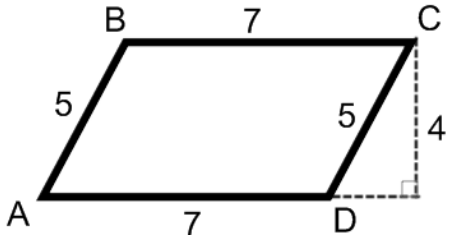
_____

25. If two angles of a triangle are unequal, the sides opposite them are

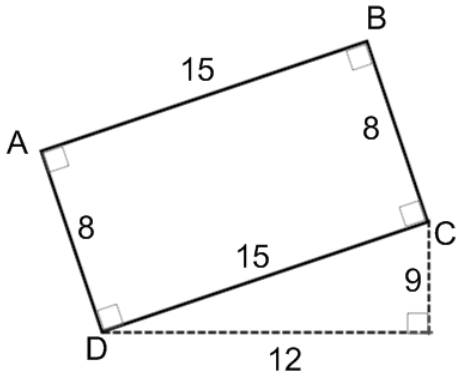
_____

Part III – Determine the area of the given figure. Circle/box your final answer. (5 points each)

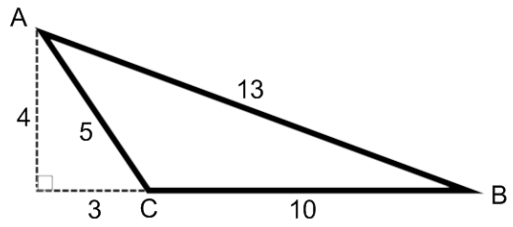
26. Parallelogram ABCD



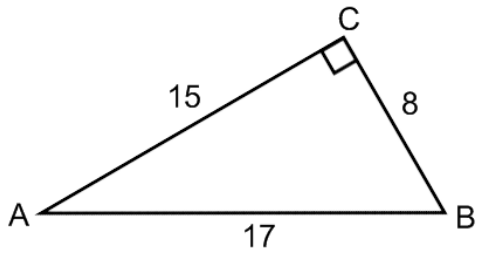
27. Rectangle ABCD



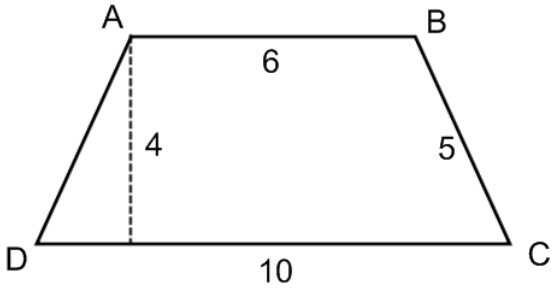
28. Triangle ABC



29. Right triangle ABC

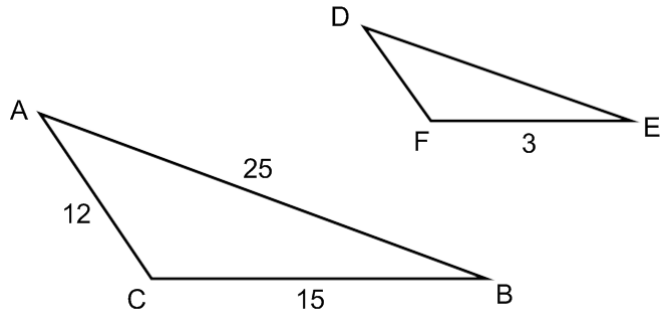


30. Trapezoid ABCD

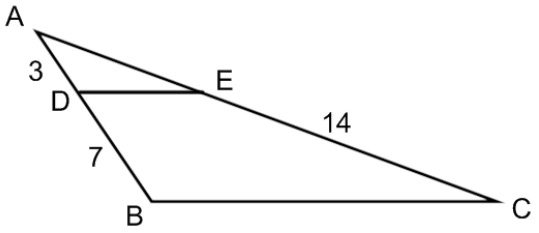


Part IV – Determine the desired side length, perimeter, area, etc. by applying similarity theorems. Circle/box your final answer. (5 points each)

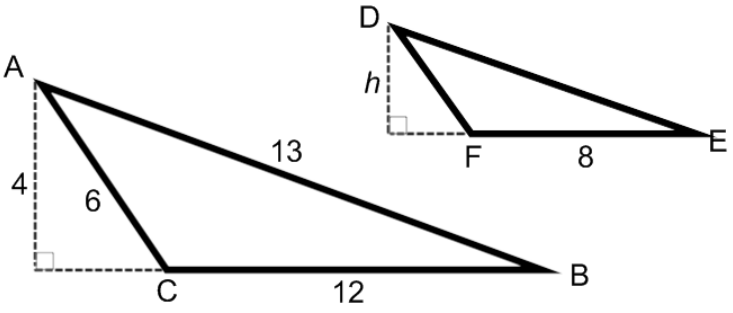
31. Length of side DE



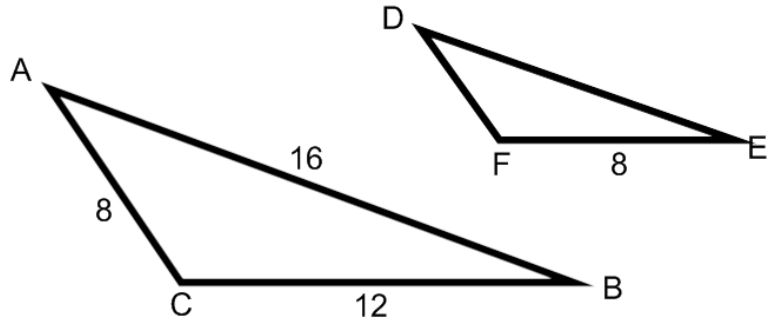
32. Length of segment AE



33. Altitude *h* of ΔDEF



34. Perimeter of ΔDEF



35. Area of ΔDEF