Geometry Droodle – Areas of Polygons

by David Pleacher

Directions:

1. Solve the 20 area problems on the next two pages.
2. Then find the corresponding letter of the answer in the second column.
3. In the spaces below, write the corresponding letter for each number.
4. This will give you the titles of the drawing to your right, which is called a Droodle.

You might have thought the title was:

__   __ __ __ __ __ __ __ __   __ __ __ __ __ __   __ __ __ __ __ __
15   11 18 9 15 5 1 12 2   16 19 17 17 14 13   5 15 11 4 19 16

__ __ __ __ __ __ __   __ __ __   __ __ __ __ .
9 14 16 3 18 8 16   14 16 13   6 8 16 13

But you would be wrong. The correct title is:

__   __ __ __ __ __   __ __ __ __ __   __ __ __ __ __ __ __ __
15   13 15 13 13 2   18 12 14 7 19   13 16 14 11 4 14 17 6

__ __ __   __ __ __   __ __ __ __ __ __ __ .
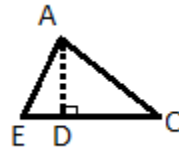18 8 16   14 16 13   20 14 10 19 17 16 18

___ 1. Find the area of a triangle with base 18 units and altitude 9 units.   A. 162

___ 2. A square and a rectangle have equal areas. If the dimensions of   B. $2\sqrt{6}$

   the rectangle are 15 units by 3 units, determine the length of the

   side of the square.   C. 225

___ 3. Simplify $\sqrt{96}$ D. 81

___ 4. If the area of $\triangle ACE$ is 14 square units, and

   EC = 4 units, determine the length of $\overline{AD}$.

___ 5. Determine the area of a trapezoid whose

   altitude is 3 units and bases are 19 units and 11 units.   E. 100

___ 6. Determine the area of a rectangle with base $\sqrt{6}$ units and   F. $10\sqrt{3}$

   altitude $\sqrt{15}$ units.   G. $3\sqrt{10}$

___ 7. Determine the area of a rectangle whose perimeter is 22 units and   H. $4\sqrt{6}$

   one side is 5 units.   I. 4

___ 8. Determine the area of $\triangle ABC$ if $m\angle C = 30°$ and $m\angle B = 90°$ and   J. 200

   AC = 8 units and BC = $4\sqrt{3}$ units.

                                                                                                K. 7

___ 9. Determine the perimeter of a square whose area is 49 square units.

                                                                                                L. 135

___ 10. Determine the area of a rhombus whose diagonals are 5 units and 9 units.

                                                                                                M. 22.5

___ 11. Determine the area of a square whose perimeter is 60 units.

                                                                                                N. $30\sqrt{2}$

___ 12. Determine the area of a parallelogram with base 90 units and   O. $\dfrac{\sqrt{6}}{2}$

   altitude 3 units.

                                                                                                P. 510

___ 13. Two sides of a triangle are 20 inches and 16 inches long, and the altitude   Q. 480
     to the 20" side is 8". Determine the length of the altitude to the 16" side.

                                                                 R. 45

___ 14. Determine the length of the side of a square whose area is numerically
     equal to its perimeter.   S. 10

___ 15. A rhombus has a side of 18 units and the measure of one angle is 30°.   T. 242
     Determine its area.

                                                                 U. $8\sqrt{3}$

___ 16. Determine the area of a square whose side is $11\sqrt{2}$ inches long.

                                                              V. 30

___ 17. Compute the area of a parallelogram with base $2\sqrt{30}$ inches and   W. 28
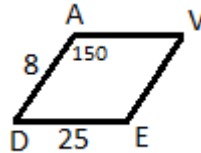
     altitude $\sqrt{15}$ inches.

                                                                 X. $5\sqrt{3}$

___ 18. Simplify $\sqrt{\dfrac{3}{2}}$ Y. $3\sqrt{5}$

___ 19. Determine the area of parallelogram DAVE
     if DA = 8 units, DE = 25 units, and
     $m\angle A = 150°$.

___ 20. How many tiles (4" x 4") would it take to cover an area 10' x 5' 8" ?   Z. None of the
                                                                  above