Geometry Honors   Mathematician: _____

Unit 11 Solids   Period:_____
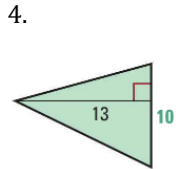
11.1a Find Area of Triangles and Parallelograms

LEVEL: EMERGING

FINDING AREA

Directions: Find the area of the polygon. All units are in meters.

1.	2.	3.
4 7	12 14	15

4.	5.	6.
13 10	30 18	9 15
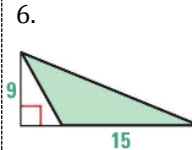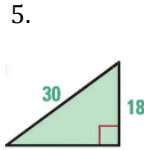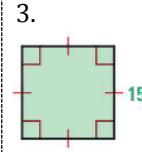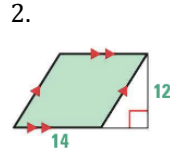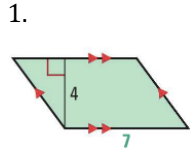
PYTHAGOREAN THEOREM

Directions: The lengths of the hypotenuse and one leg of a right triangle are given. Find the perimeter and area of the triangle.

7. Hypotenuse: 15in Leg: 12in	8. Hypotenuse: 85m Leg: 84m	9. Hypotenuse: 34ft Leg: 16ft

LEVEL: PROFICIENT

ERROR ANALYSIS

Directions: *Describe* and correct the error in finding the area of the parallelogram

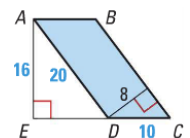| 10.	11.
$A = bh$ $= (6)(5)$ $= 30$ 5 4 6	$A = bh$ $= (7)(4)$ $= 28$ 4 4 3

COMPARING METHODS

Directions: Show two different ways to calculate the area of parallelogram *ABCD*. *Compare* your results.

12. **METHOD 1**	**METHOD 2**	
		A B 16 20 8 E D 10 C

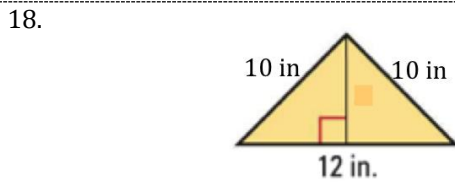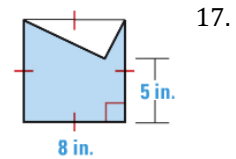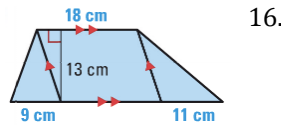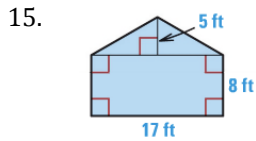*COMPARE:*

Directions: Find the indicated measures.

13. The area of a triangle is 4 square feet. The height of the triangle is half its base. Find the base and the height.

14. The area of a parallelogram is 507 square centimeters, and its height is three times its base. Find the base and the height.

FINDING AREA

Directions: Find the area of the shaded polygon. If necessary, round to the nearest thousandth.

15.

5 ft
8 ft
17 ft

16.

18 cm
13 cm
9 cm   11 cm

17.

5 in.
8 in.

18.

10 in   10 in
12 in.

19.

12 ft   135°
23 ft

20.

28 cm   17 cm
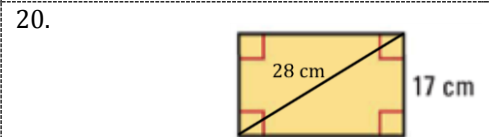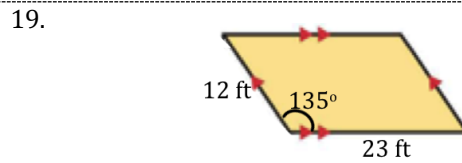
COORDINATE GEOMETRY

Directions: Find the area of the polygon using the given coordinates of the vertices.

21. A (3, 3), B (10, 3), C(8, -3), D(1, -3)