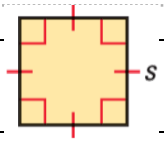
Geometry

11.1 Areas of Triangles and Parallelograms

Area of a Square

A =_____ Where _____ is the length of a _____.



Area Congruence Postulate

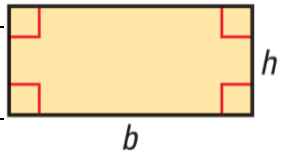
If 2 _____ are _____, then they have the same _____.

Area Addition Postulate

The total area is the _____ of the _____ of the _____ parts.

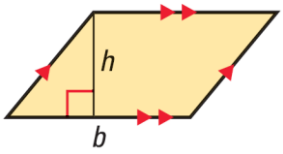
Area of a Rectangle

A = _____ Where ___ is the _____ and ___ is the _____



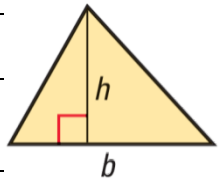
Area of a Parallelogram

A = _____ Where ___ is the _____ and ___ is the _____.

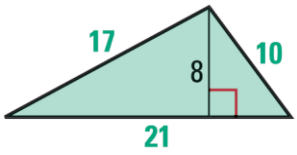


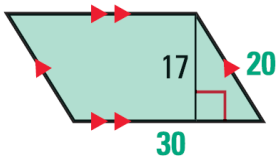
Area of a Triangle

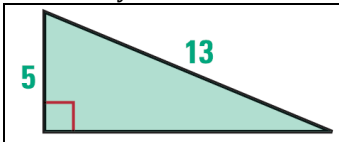
A = _____ Where ___ is the _____ and ___ is the _____.



Find the perimeter and area of the polygon.

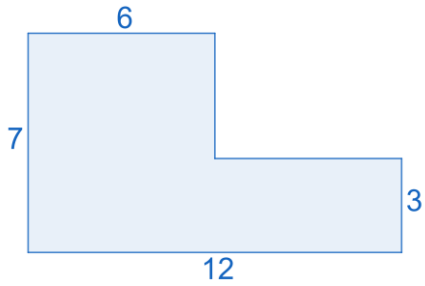






A parallelogram has an area of 153 in^2 and a height of 17 in. What is the length of the base?

Find the area.

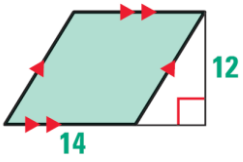


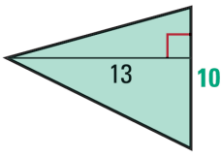
Assignment: Attached worksheet

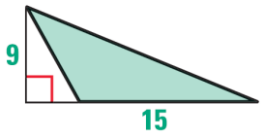
Geometry 11.1 Name: _____

Assignment:

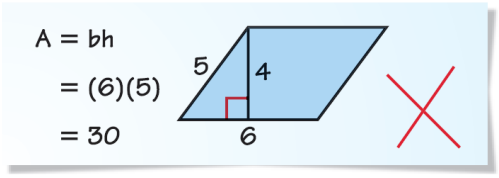
Find the area of the polygon.

1. 

2. 

3. 

Describe and correct the error in finding the area of the parallelogram.

4. 

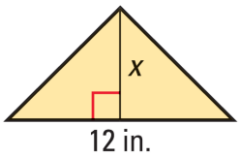
The lengths of the hypotenuse and one leg of a right triangle are given. Find the perimeter and area of the triangle.

5. Hypotenuse: 15 in.; leg: 12 in.

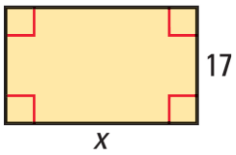
6. Hypotenuse: 85 m; leg: 84 m

Find the value of *x*.

7. $A = 36$ in.^{2}

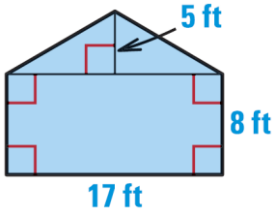


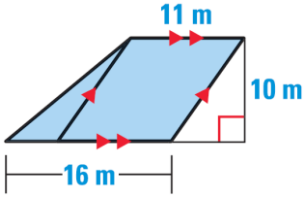
8. $A = 476$ cm^2

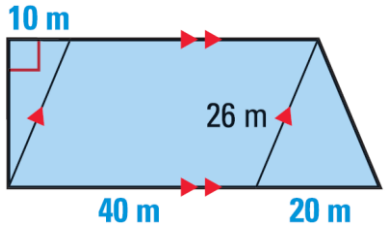


9. The area of a parallelogram is 507 square centimeters, and its height is three times its base. Find the base and the height.

Find the area of the shaded polygon.

10. 

11. 

12. 

13. In $\square ABCD$, base AD is 15 and AB is 8. What are the height and area of $\square ABCD$ if $m\angle DAB$ is 20°? If $m\angle DAB$ is 50°?

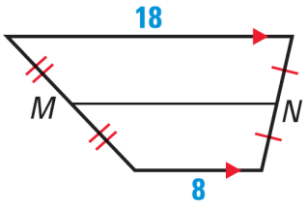
14. Find the area of a triangle with side lengths 5 feet, 5 feet, and 8 feet.

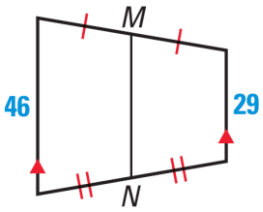
15. Sails A and B are right triangles. The lengths of the legs of Sail A are 65 feet and 35 feet. The lengths of the legs of Sail B are 29.5 feet and 10.5 feet. Find the area of each sail to the nearest square foot. About how many times as great is the area of Sail A as the area of Sail B?

16. You are making a tabletop in the shape of a parallelogram to replace an old 24 inch by 15 inch rectangular one. You want the areas of the tabletops to be equal. The base of the parallelogram is 20 inches. What should the height be

Mixed Review

Find the length of the midsegment of the trapezoid.

17. 

18. 

The coordinates of $\triangle PQR$ are $P(-4, 1)$, $Q(2, 5)$, and $R(1, -4)$. Graph the image of the triangle after the translation. Use prime notation.

19. $(x, y) \rightarrow (x + 3, y - 5)$

20. $(x, y) \rightarrow (x - 2, y + 3)$