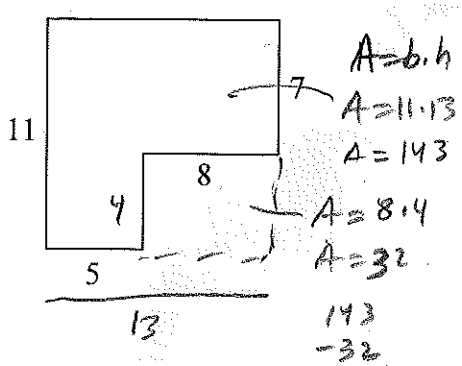
Geometry 11.1 – 11.5 Worksheet

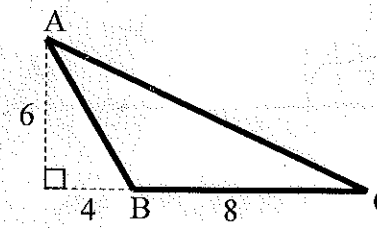
Name Key

1. Find the area of the diagram. (assume right angles)



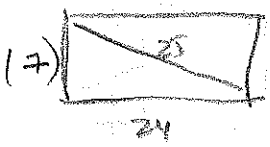
$A = b \cdot h$
$A = 11 \cdot 13$
$A = 143$
$A = 8 \cdot 4$
$A = 32$
$143 - 32$
111

2. Find the area of ΔABC.



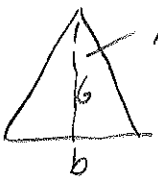
$A = \frac{1}{2} b \cdot h$
$A = \frac{1}{2} 8 \cdot 6$
$A = 24$

3. Find the area of a rectangle with a base 24 and a diagonal of 25.



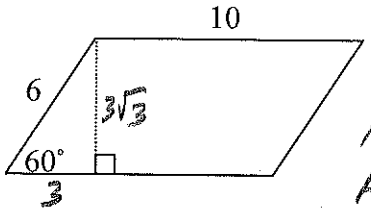
$A = b \cdot h$
$A = 7 \cdot 24$
$A = 168$

4. Find the base of a triangle whose altitude is 6 and whose area is 30.



$A = 30$
$A = \frac{1}{2} b \cdot h$
$30 = \frac{1}{2} b 6$
$30 = 3b$
$10 = b$

5. Find the area of the parallelogram.

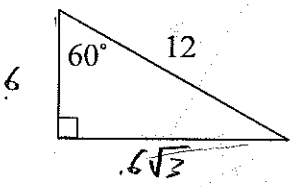


$A = b \cdot h$
$A = 10 \cdot 3\sqrt{3}$
$A = 30\sqrt{3}$

6. Find the perimeter of a square whose area is 25.

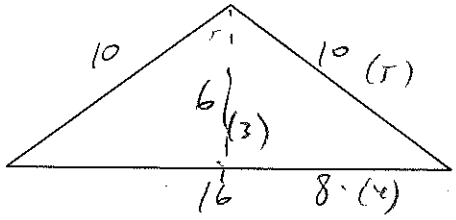
$A = 25$
$x^2 = 25$
$x = 5$
$P = 5 \times 4 = 20$

7. Find the area of the triangle.



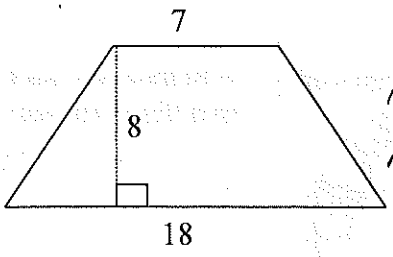
$A = \frac{1}{2} b \cdot h$
$= \frac{1}{2} 6\sqrt{3} \cdot 6$
$= 18\sqrt{3}$

8. Find the area of an isosceles triangle with sides 10, 10, and 16.



$A = \frac{1}{2} bh$
$A = \frac{1}{2} 16 \cdot 6$
$A = 48$

9. Find the area of the trapezoid.

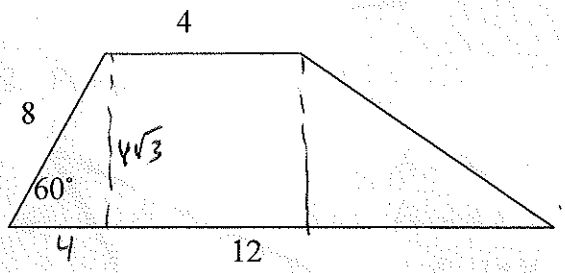


$A = \frac{1}{2}h(b_1+b_2)$

$A = \frac{1}{2}8(7+18)$

$A = 100$

10. Find the area of the trapezoid.

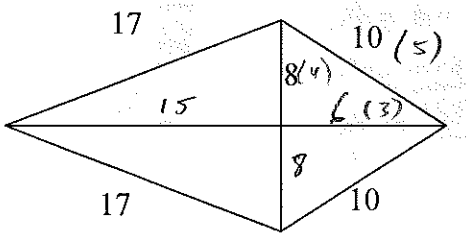


$A = \frac{1}{2}h(b_1+b_2)$

$A = \frac{1}{2}4\sqrt{3}(4+12)$

$A = 32\sqrt{3}$

11. Find the area of the kite.

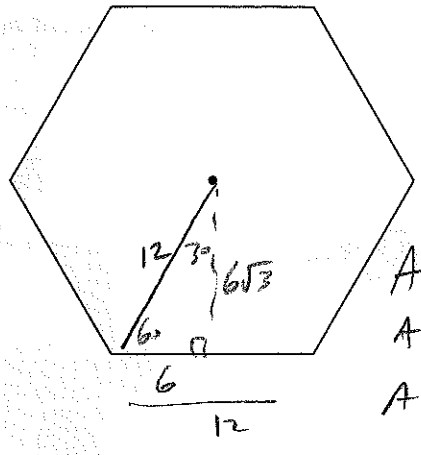


$A = \frac{1}{2}d_1d_2$

$A = \frac{1}{2}16 \cdot 21$

$A = 168$

12. Find the area of the regular hexagon with a radius of 12.



$A = \frac{1}{2}ap$

$A = \frac{1}{2}6\sqrt{3}(12 \cdot 6)$

$A = 216\sqrt{3}$

$$\begin{array}{r} 36 \\ 2\overline{)72} \\ 6 \\ \hline 12 \end{array}$$

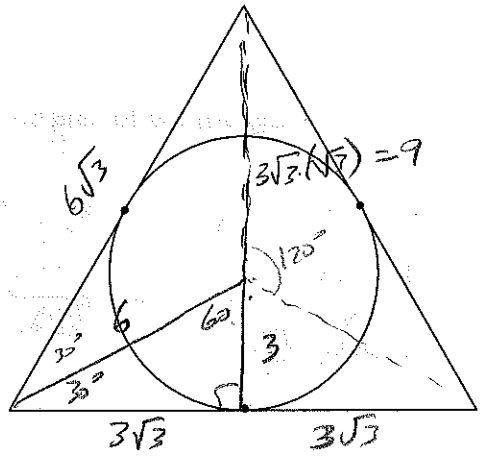
$$\begin{array}{r} 12 \\ 6 \\ \hline 72 \end{array}$$

$\frac{1}{2} \cdot 6\sqrt{3} \cdot 72$

$72 \cdot \frac{3}{3}$

216

13. Find the area of the equilateral triangle if the radius of its inscribed circle is 3.



$A = \frac{1}{2}6\sqrt{3} \cdot 9 = 27\sqrt{3}$

or formula

$A = \frac{s^2}{4}\sqrt{3} = \frac{(6\sqrt{3})^2}{4}\sqrt{3}$

$= \frac{36 \cdot 3}{4}\sqrt{3}$

$= 27\sqrt{3}$

Geometry
Review Worksheet 11.1-11.6

Name Key
Date _____ Period _____

For #1-7, find the **area** of each figure. Write down the formula used.

#1. Find the area of the figure. Assume right angles.

$A = b \cdot h$

$A = 12 \cdot 8 = 96$

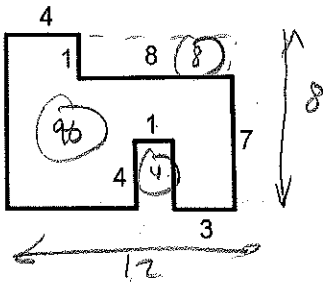
-8

88

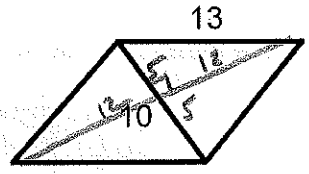
-4

84

$84\ u^2$



#2. Rhombus.



$d_1 = 10$

$d_2 = 24$

$A = \frac{1}{2} d_1 d_2$

$A = \frac{1}{2}(10)(24)$

$A = 10 \cdot 12 = 120\ u^2$

#3. A kite is to be constructed using two sticks measuring 5 and 10 inches.

$d_1 = 5$ in

$d_2 = 10$ in

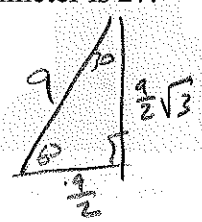
$A = \frac{1}{2} d_1 d_2 = \frac{1}{2}(5)(10) = 25\ in^2$

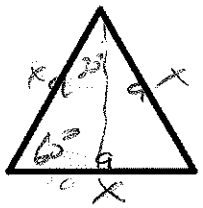
#4. An equilateral triangle whose perimeter is 27.

$A = \frac{1}{2} b \cdot h$

$A = \frac{1}{2} 9 \left(\frac{9}{2}\sqrt{3}\right)$

$A = \frac{81}{4}\sqrt{3}\ u^2$





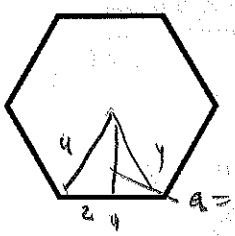
$3x = 27$

$x = 9$

#5. A regular hexagon whose radius is 4.

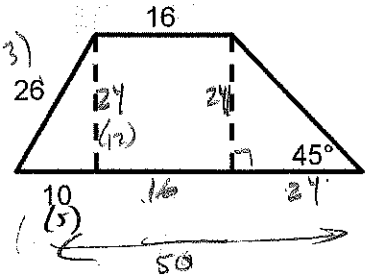
$A = \frac{1}{2} a p$

$A = \frac{1}{2}(2\sqrt{3})(24) = 24\sqrt{3}\ u^2$



$P = 6 \cdot 4 = 24$

#6. Trapezoid.



$A = \frac{1}{2} h (b_1 + b_2)$

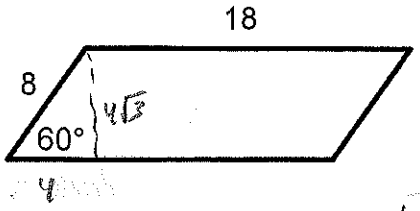
$A = \frac{1}{2}(24)(16+50)$

$A = 12(66)$

$A = 792\ u^2$

66
×12
132
66
792

Parallelogram.

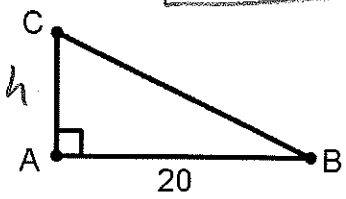


$A = b \cdot h$

$A = 18 \cdot 4\sqrt{3}$

$A = 72\sqrt{3}\ u^2$

#8. If the right triangle has an area of 50, find AC.



$A = \frac{1}{2} b \cdot h$

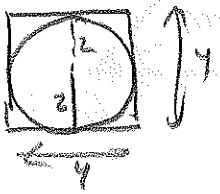
$50 = \frac{1}{2} 20 h$

$\frac{50}{10} = \frac{10h}{10}$

$5 = h$

$AC = h = 5$

#9. Find the area of a square circumscribed about a circle whose radius is 2. (draw a picture)



$A = b \cdot h$

$A = 4 \cdot 4$

$A = 16\ u^2$

#10. The circumference of a circle is 24π. Find the area of the circle.

$C = 2\pi r$

$24\pi = 2\pi r$

$\frac{24}{2} = \frac{2}{2} r$

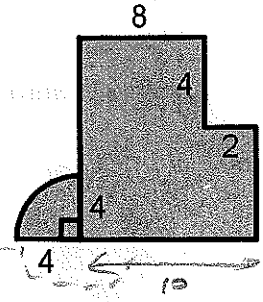
$12 = r$

$A = \pi r^2$

$A = \pi 12^2$

$A = 144\pi\ u^2$

#11. Find the shaded area.



$A_{big\ rect} = b \cdot h = 10 \cdot 10 = 100\ u^2$

$A_{little\ rect} = b \cdot h = 4 \cdot 2 = 8\ u^2$

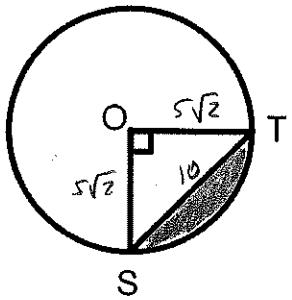
$A_{secto} = \frac{1}{4}(\pi r^2) = \frac{1}{4}(\pi 4^2) = \frac{16\pi}{4} = 4\pi\ u^2$

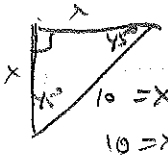
$A_{total} = (A_{big\ rect} - A_{little\ rect}) + A_{secto}$

$= (100 - 8) + 4\pi$

$= 92 + 4\pi\ u^2$

#12. Find the area of the shaded segment if ST=10





$10 = x\sqrt{2}$

$\frac{10}{\sqrt{2}} = \frac{x\sqrt{2}}{\sqrt{2}}$

$x = \frac{10}{\sqrt{2}} = \frac{10\sqrt{2}}{2} = 5\sqrt{2}$

$A_{segment} = A_{secto} - A_{triangle}$

$= \left(\frac{1}{4}\right)\left(\pi (5\sqrt{2})^2\right) - \frac{1}{2}(5\sqrt{2})(5\sqrt{2})$

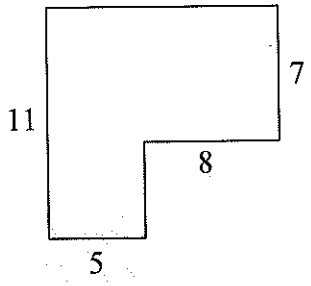
$= \frac{1}{4}\pi\, 25 \cdot 2 - \frac{1}{2} 25 \cdot 2$

$= \frac{25\pi}{2} - 25\ u^2$

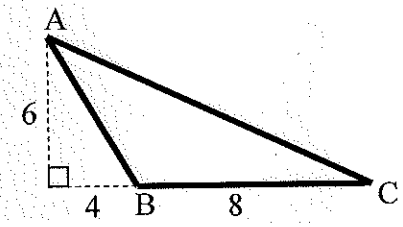
Geometry 11.1 – 11.5 Worksheet

Name_____

1. Find the area of the diagram. (assume right angles)



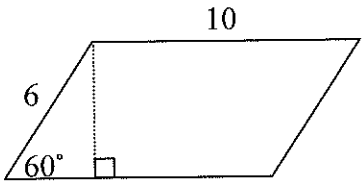
2. Find the area of ΔABC.



3. Find the area of a rectangle with a base 24 and a diagonal of 25.

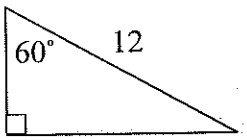
4. Find the base of a triangle whose altitude is 6 and whose area is 30.

5. Find the area of the parallelogram.

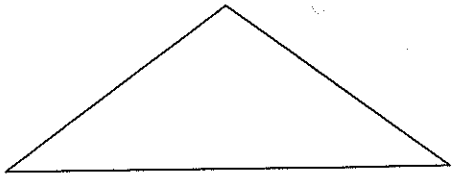


6. Find the perimeter of a square whose area is 25.

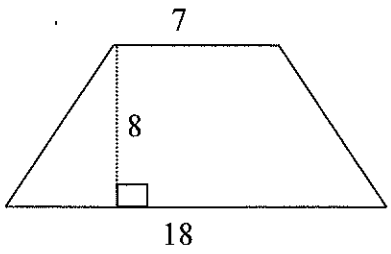
7. Find the area of the triangle.



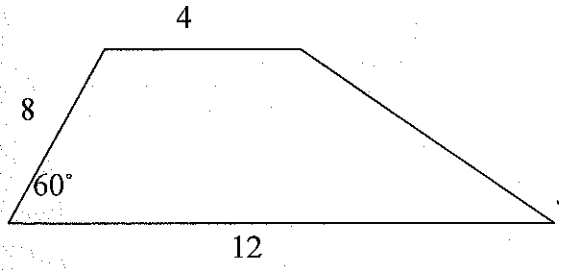
8. Find the area of an isosceles triangle with sides 10, 10, and 16.



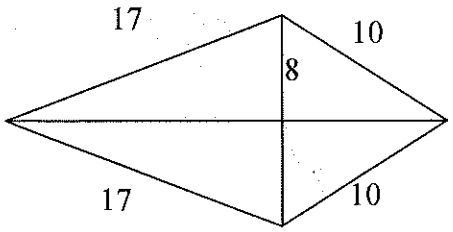
9. Find the area of the trapezoid.



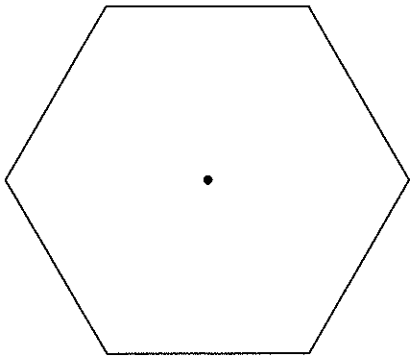
10. Find the area of the trapezoid.



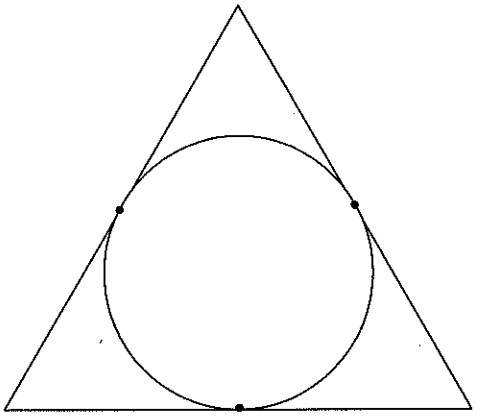
11. Find the area of the kite.



12. Find the area of the regular hexagon with a radius of 12.



13. Find the area of the equilateral triangle if the radius of its inscribed circle is 3.

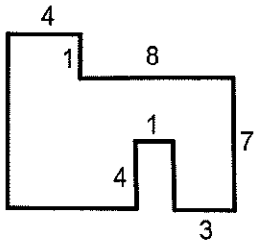


Geometry
Review Worksheet 11.1-11.6

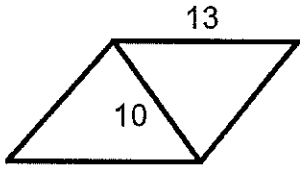
Name_____
Date_____ Period_____

For #1-7, find the **area** of each figure. Write down the formula used.

#1. Find the area of the figure. Assume right angles.

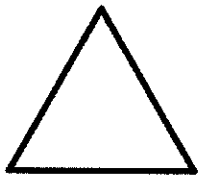


#2. Rhombus.

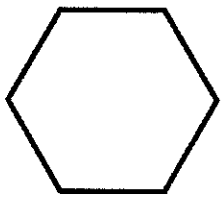


#3. A kite is to be constructed using two sticks measuring 5 and 10 inches.

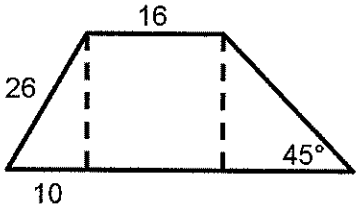
#4. An equilateral triangle whose perimeter is 27.



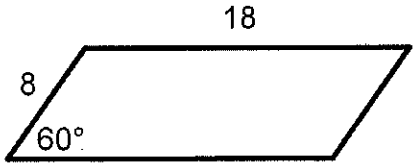
#5. A regular hexagon whose radius is 4.



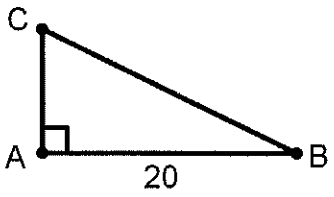
#6. Trapezoid.



#7. Parallelogram.



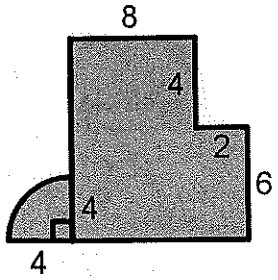
#8. If the right triangle has an area of 50, find AC.



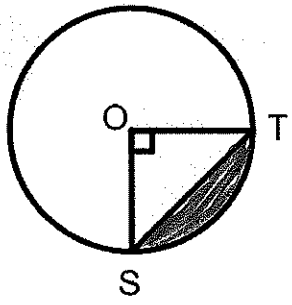
#9. Find the area of a square circumscribed about a circle whose radius is 2. (draw a picture)

#10. The circumference of a circle is 24π. Find the area of the circle.

#11. Find the shaded area.



#12. Find the area of the shaded segment if ST=10



Answer Key:

#1. 84 $units^2$

#2. 120 $units^2$

#3. 25 in^2

#4. $\frac{81\sqrt{3}}{4} units^2$

#5. $24\sqrt{3}\ units^2$

#6. 792 $units^2$

#7. $72\sqrt{3}\ units^2$

#8. 5

#9. 16 $units^2$

#10. $144\pi\ units^2$

#11. $92+4\pi\ units^2$

#12. $\frac{25\pi}{2}-25\ units^2$