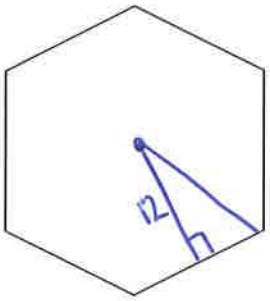
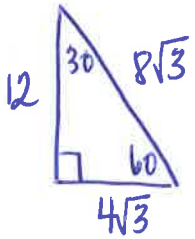
Geometry/Trig 2
Unit 9 Mixed Review Homework

Name: _____
Date: _____

1. Find each indicated measure regarding the regular hexagon with apothem 12 in. Leave your answers in simplified radical form.



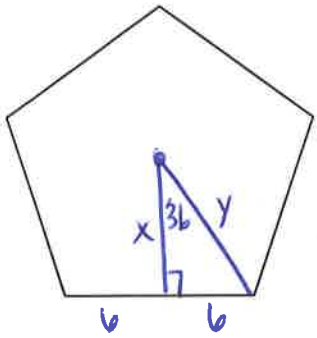


$P = 6(8\sqrt{3})$
$48\sqrt{3}$

$A = \frac{1}{2}(12)(48\sqrt{3})$
$6 \cdot 48\sqrt{3}$
$288\sqrt{3}$

Radius = $8\sqrt{3}$ in Perimeter = $48\sqrt{3}$ in
Side Length = $8\sqrt{3}$ in Area = $288\sqrt{3}$ in^2

2. Find each indicated measure regarding the regular pentagon with side length 12 ft. Round to the nearest hundredth.



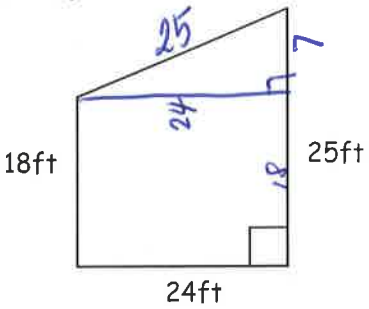
$\tan 36 = \frac{6}{x}$
$x = 8.26$
$\sin 36 = \frac{6}{y}$
$y = 10.21$

$P = 5(12)$
$= 60$

$A = \frac{1}{2}(8.26)(60)$

Apothem = 8.26 ft. Perimeter = 60 ft.
Radius = 10.21 ft. Area = 247.8 $ft.^2$

3. A diagram of your trapezoidal bedroom is shown below. Answer each question.



a) Find the perimeter. 92 ft.

b) Find the area. 516 $ft.^2$

$A = \frac{1}{2}(24)(18+25)$
$12 \cdot 43$

c) If carpet costs $5.25 per square foot, how much will it cost to carpet this room? $2,709.00

$516(5.25)$

d) If the height of each wall is 10 feet, find the area of the four walls combined. 920 $ft.^2$

$92(10)$

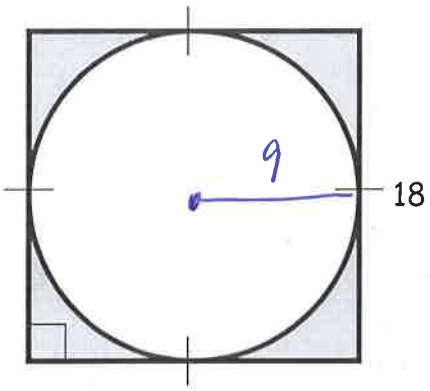
e) If a gallon of paint covers approximately 325ft^2, how many gallons of paint would you need to paint the four walls of this room, if you only need one coat of paint? 3 gallons

$920 / 325 = 2.83$

Geometry/Trig 2
Unit 9 Mixed Review Homework

Directions: Answer each problem. Leave all answers in terms of π. Round any decimal answers to the nearest hundredth.

4. The below quadrilateral is circumscribed about the circle.



Area of the Shaded Region (in terms of π):

$18 \cdot 18$ $\quad \pi(9)^2$ $\quad 324 - 81\pi \ u^2$

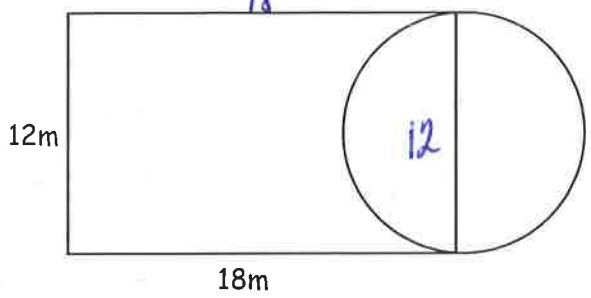
324 $\quad 81\pi$

Area of the Shaded Region (decimal; use π = 3.14):

$324 - 81(3.14)$

$69.66 \ u^2$

5. Find the area and perimeter of the figure shown below. (The figure consists of a half circle and a rectangle).



$12 \cdot 18 = 216$ $\quad \pi(6)^2 = \frac{36\pi}{2} = 18\pi$

$12 + 18 \cdot 2 = 48$ $\quad \frac{2\pi(6)}{2} = 6\pi$

Area (in terms of π): $216 + 18\pi \ m^2$

Area (decimal; use π = 3.14): $272.52 \ m^2$

Perimeter (in terms of π): $48 + 6\pi \ m$

Perimeter (decimal; use π = 3.14): $66.84 \ m$

6. Given that a circular table has an area of 676π square inches, find the circumference of the table, in terms of π.

$676\pi = \pi r^2$ $\quad C = 2\pi(26)$

$r^2 = 676$ $\quad C = 52\pi$ in.

$r = 26$

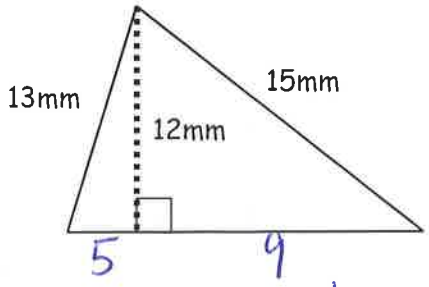
7. Given that a trapezoid has an area of 120in², a height of 10in, and one base that measures 10in, find the length of the second base.

$120 = \frac{1}{2} 10(x + 10)$

$24 = x + 10$

$x = 14$ inches

8. Find the area and perimeter.



$A = \frac{1}{2} 14(12)$

Area = $84 \ mm^2$

Perimeter = $42 \ mm$