Lesson 11-4

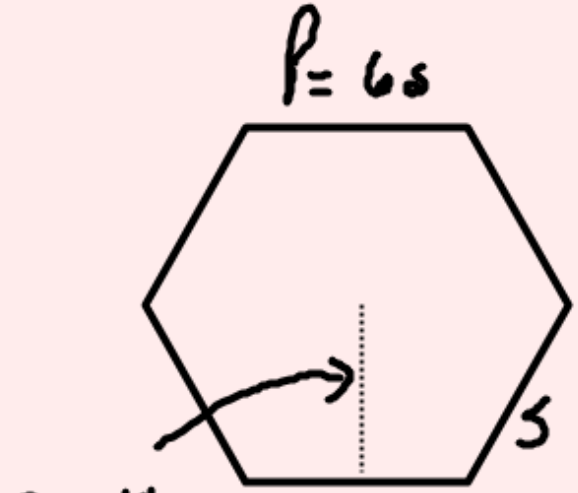
Areas of Regular Polygons and Composite Figure

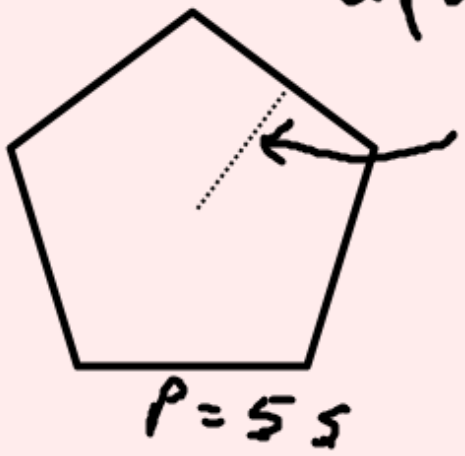
You will find the areas of regular polygons and composite figures

Area of a Regular Polygon

$A = \frac{1}{2} a P$ → Perimeter

↳ apothem

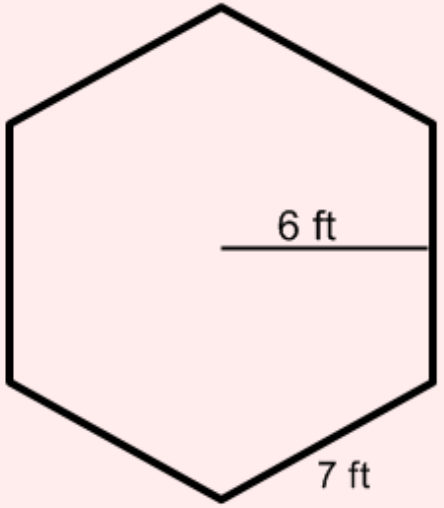




Perimeter = (# sides)(length of sides)

Find the area of each regular hexagon. Round to the nearest tenth.

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

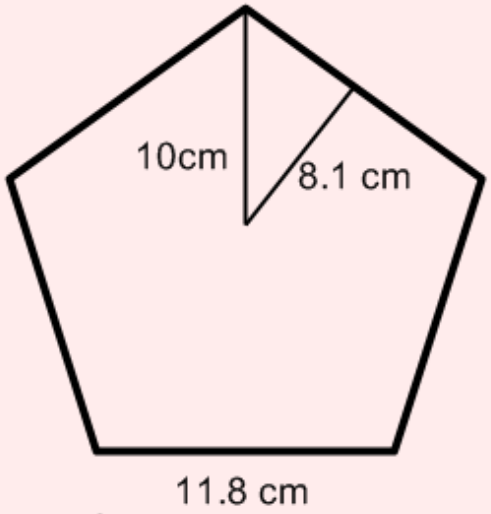


$P = 7(6) = 42$

sides

$A = \frac{1}{2}(6)(42)$

$A = 126\ ft^2$

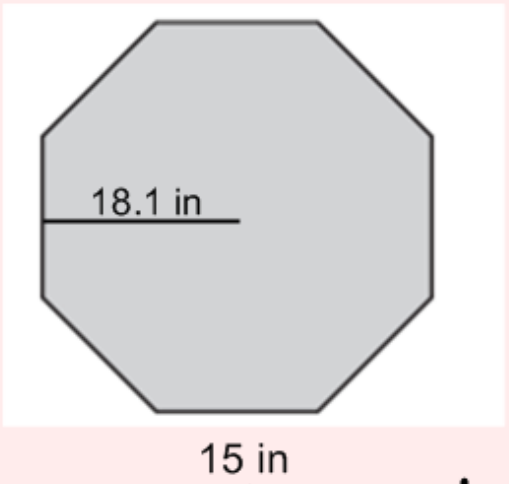


$P = 11.8(5) = 59$

sides

$A = \frac{1}{2}(8.1)(59)$

$A = 238.95\ cm^2$



$P = 15(8) = 90$

$A = \frac{1}{2}(18.1)(90)$

$A =$

$814.5\ in^2$

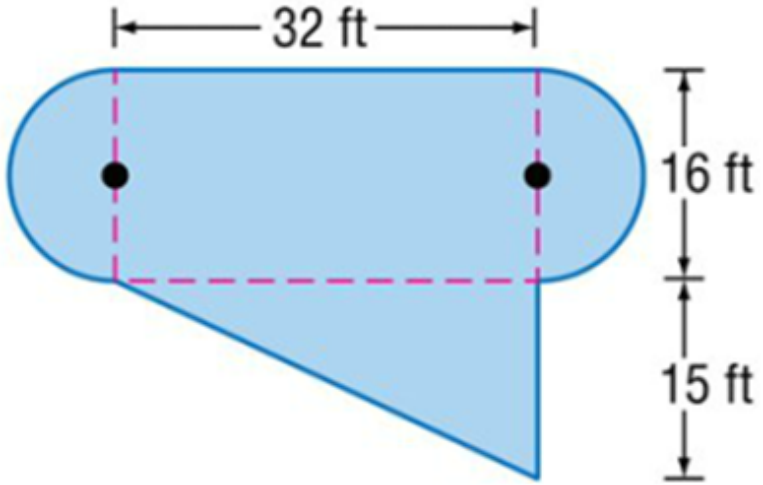
Composite figures

1) Divide the figure into parts

2) Find area of each part

3) Add or subtract to find the total area

POOL The dimensions of an irregularly shaped pool are shown. What is the area of the surface of the pool?



Rectangle $= 32(16) = 512$

$+$ $+$

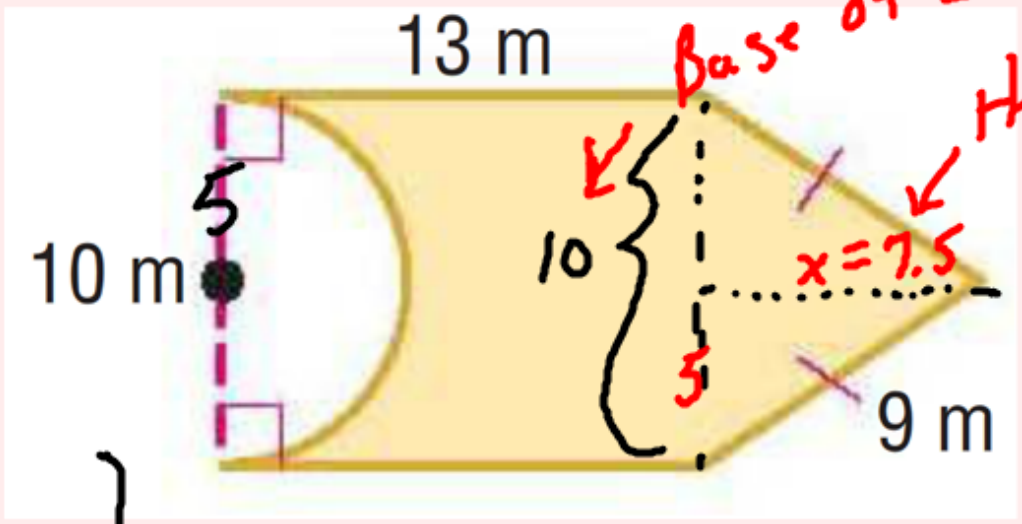
Triangle $= \frac{1}{2}(15)(33) = 240$

$+$ $+$

Circle $= \pi(8^2) = 201.1$

953.06 ft^2

Find the area of the figure. Round to the nearest tenth.



Base of Δ

Height of Δ

Rectangle $10(13) = 130$

\+

Triangle $= \frac{1}{2}(10)(7.5) = 37.5$ } add

Semicircle $= \frac{\pi(5^2)}{2} = 39.3$ } subtract

$128.2\ m^2$

Divide by 2 since it is a semicircle

$x^2 + 5^2 = 9^2$

$x^2 + 25 = 81$

$x^2 = 56$

$x = \sqrt{56} = 7.5$