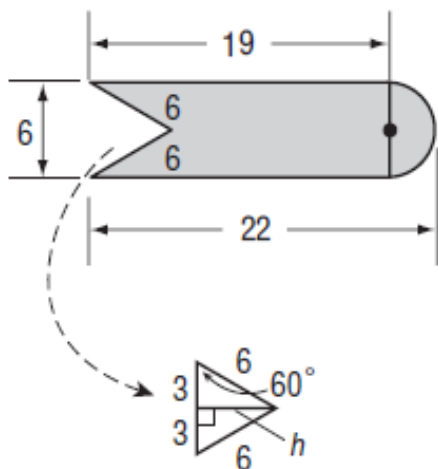


Geometry - 11.4 Area of Composite Figures – Notes

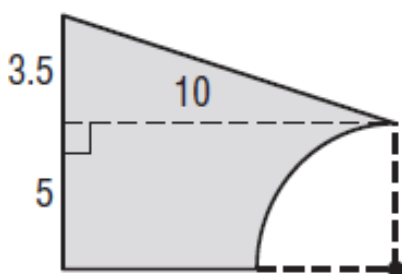
A composite figure is composed of multiple shapes such as triangles, parallelograms, circles, trapezoids, rectangles, and more. To find the area of a composite figure you add (and subtract) the shapes which comprise the figure. It helps to list the names of the shapes you are using. Then list the formulas for each shape. Substitute the values into each formula to find composite area.

ex 1



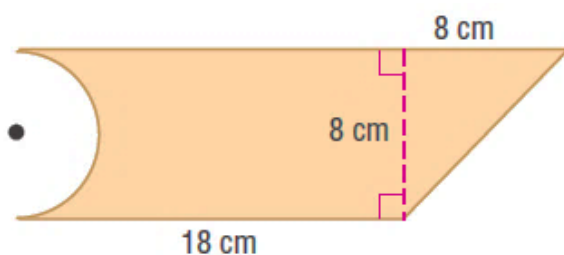
$$\begin{aligned}
 & \text{rectangle} + \text{half-circle} - \text{triangle} \\
 &= b \cdot h + \frac{1}{2} \pi r^2 - \frac{1}{2} b \cdot h \\
 &= (19) \cdot (6) + \frac{1}{2} \pi (3)^2 - \frac{1}{2} (6) \cdot (3\sqrt{3}) \\
 &= 114 + 14.13717 - 15.58846 \\
 &\approx 143.73 \text{ square units}
 \end{aligned}$$

ex 2



$$\begin{aligned}
 & \text{rectangle} - \text{quarter-circle} + \text{triangle} \\
 &= b \cdot h - \frac{1}{4} \pi r^2 + \frac{1}{2} b \cdot h \\
 &= (10) \cdot (5) - \frac{1}{4} \pi (5)^2 + \frac{1}{2} (10) \cdot (3.5) \\
 &= 50 - 19.634954 + 17.5 \\
 &\approx 47.87 \text{ square units}
 \end{aligned}$$

ex 3



$$\begin{aligned}
 & \text{rectangle} - \text{half-circle} + \text{triangle} \\
 &= b \cdot h - \frac{1}{2} \pi r^2 + \frac{1}{2} b \cdot h \\
 &= (18) \cdot (8) - \frac{1}{2} \pi (4)^2 + \frac{1}{2} (8) \cdot (8) \\
 &= 144 - 25.132741 + 32 \\
 &\approx 150.87 \text{ cm}^2
 \end{aligned}$$