Lesson 11-6

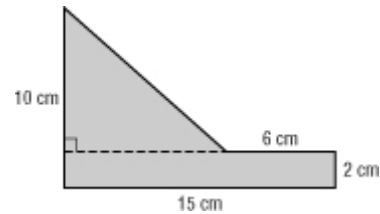### Example 1 Find the Area of a Complex Figure
Find the area of the figure at the right in square centimeters.

The figure can be separated into a rectangle and a triangle. Find the area of each.

Area of Rectangle
$A = \ell w$ Area of a rectangle
$A = 15 \cdot 2$ Replace ℓ with 15 and w with 2.
$A = 30$ Multiply.

Area of Triangle
$A = \frac{1}{2}bh$ Area of a triangle

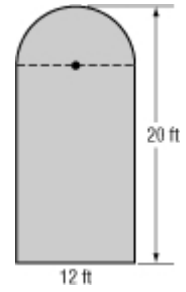$A = \frac{1}{2}(9)(8)$ Replace b with 9 and h with 8.

$A = 36$ Multiply.
The area of the figure is $30 + 36$ or 66 square centimeters.

Example 2 Find the Area of an Irregular Room
ARCHITECTURE The diagram at the right shows the dimensions of a family room addition to an existing home. Find the area of the new family room. Round to the nearest tenth.

20 ft

12 ft

The figure can be separated into a rectangle and a semicircle.

Area of Rectangle

$A = \ell\, w$ Area of a rectangle

$A = 14 \cdot 12$ Replace ℓ with 14 and w with 12.

$A = 168$ Multiply.

Area of Semicircle

$A = \dfrac{1}{2}\pi r^2$ Area of a semicircle

$A = \dfrac{1}{2}\pi (6)^2$ Replace r with 6.

$A \approx 56.5$ Simplify.

The area of the new family room is approximately 168 + 56.5 or 224.5 square feet.