Opener with Areas Name_____

For each, find the formula for the area of the figure in terms of x.

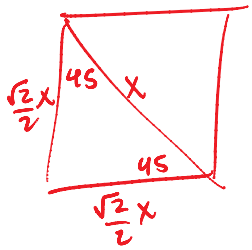
1. A square with sides of length x.

$A = x^2$

2. A square with diagonals of length x.

$A = \left(\frac{x\sqrt{2}}{2}\right)^2$

$A = \frac{1}{2}x^2$

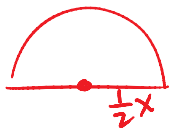


3. A semi-circle with radius of x.

$A = \frac{1}{2}\pi x^2$

4. A semi-circle with diameter of x.

$A = \frac{1}{8}\pi x^2$



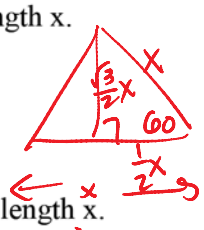
$A = \frac{1}{2}\left(\frac{1}{2}x\right)^2\pi$

$= \frac{1}{8}\pi x^2$

5. An equilateral triangle with sides of length x.

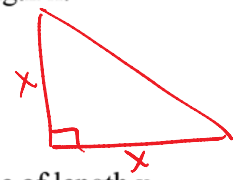
$A = \frac{1}{2}(x)\left(\frac{\sqrt{3}}{2}x\right)$

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



6. An isosceles right triangle with legs of length x.

$A = \frac{1}{2}x^2$



7. An isosceles right triangle with hypotenuse of length x.

$A = \frac{1}{2}\left(\frac{\sqrt{2}}{2}x\right)^2$

$A = \frac{1}{4}x^2$