Instructions: Show all work. Use exact answers unless specifically asked to round.

1. A homeowner wants to put in a square patio with a circular pool in the middle. If the homeowner wants to use bricks for the patio around the pool, he needs to know the area that needs to be covered. Use the diagram below to calculate the area that will need to be covered with bricks. [Hint: find the area of the square $(A = s^2)$ minus the area of the pool $(A = \pi r^2)$.]
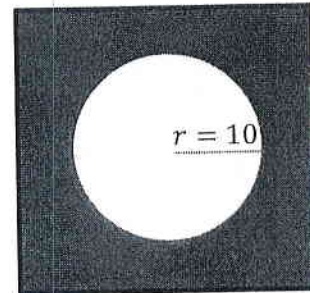
$s = 30$

$A_{square} = 30^2 = 900$

$A_{circle} = \pi (10)^2 = \boxed{\pi \cdot 100} \approx 314.16$

$r = 10$

$Area\ of\ patio = \boxed{900 - 100\pi}$

≈ 585.84

2. Find three consecutive odd numbers whose sum is 177.

$n, n+2, n+4$

$(n) + (n+2) + (n+4) = 3n + 6 = 177$

$3n = 171$

$n = 57$

$\boxed{\begin{array}{l} n = 57 \\ n+2 = 59 \\ n+4 = 61 \end{array}}$

3. Write the expression "Five plus twice the sum of a number and six" as an algebraic expression.

$5 + 2(x+6)$