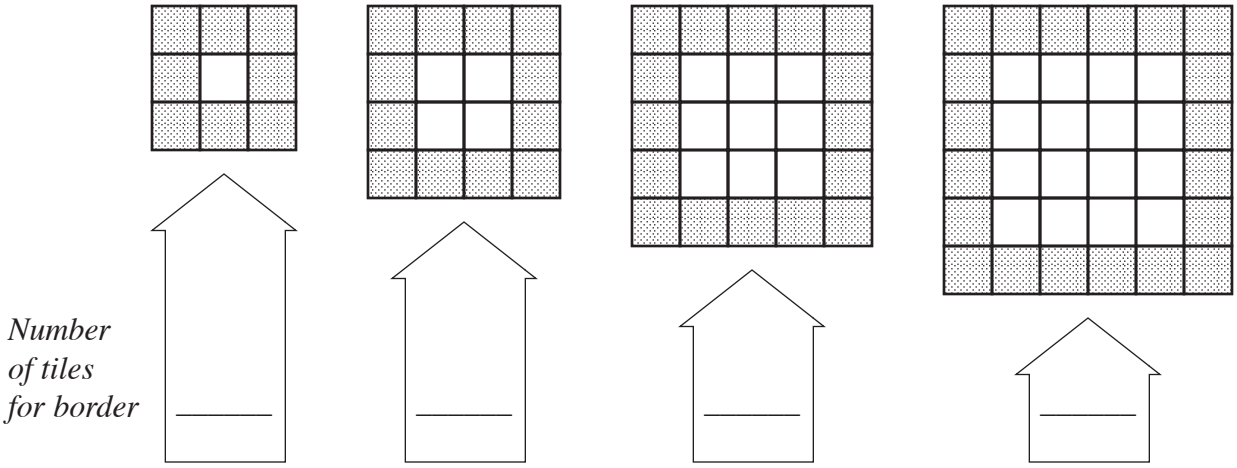
MathFLIX CHALLENGE

Equivalent Expressions

Find the number of tiles required for a border around any square pool. One solution is to draw pictures and count the tiles. Can you detect a pattern in the four pictures below?



Number of tiles for border _____ _____ _____ _____

Another strategy is to use a formula. COUNTDOWN viewers have proposed several different formulas for finding the border around a square. Check their formulas to see if they all work.

Length (s) of the side of a square pool	$s + s + s + s + 4$	$4s + 4$	$2(s+2) + 2s$	$4(s+1)$	$(s+2)^2 - s^2$
1	$1+1+1+1+4$	$4(1) + 4$ $4 + 4$	$2(1+2)+2(1)$ $2(3)+2$ $6+2$		$(1+2)^2-1^2$ 3^2-1 $9-1$
2				$4(2+1)$	
3			$2(3+2)+2(3)$		
4					
5					
6					
7					