

Solution 12:

$a^2 - b^2 = 2010^2 \Rightarrow (a-b)(a+b) = 2^2 \times 3^2 \times 5^2 \times 67^2$. $a-b$ and $a+b$ must both be even since their difference is even ($2b$) and the product of two odd numbers is odd. Under this constraint we need to write 2010^2 as a product of two different even numbers which are each as close as possible to 2010. Some thought leads you to

$a-b$	$a+b$	a	b
$2 \times 3^2 \times 67 = 1206$	$2 \times 5^2 \times 67 = 3350$	2278	1072