Jonathan Quang 10/9/14  
Math Research -Mr. Rubinstein  
  
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Primitive Pythagorean triples are positive integer values for a, b, and c in the equation a2 +b2=c2  where a, b, and c do not share any common factors. A is generally an odd integer, but b can also be even in the case where a=8, b=15, and c=17. When a is an odd integer, b and c can be calculated. The formula for calculating b when a is an odd number is . The formula for calculating c is . These formula suggest that b and c values will usually be fairly close together in value. It is also noted that a and b cannot both be both even or odd. Returning back to the Pythagorean theorem, if a and b are both even, then their squares are even. The sum of the squares will also be even. The square root of the sum will also be a sum. However, because all three variables are even, they are at least divisible by two, making them an invalid candidate for being a primitive Pythagorean triple. If a is odd, and , then b will be even. This contradicts b being odd.