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| The Pythagorean Theorem | If a triangle is a right triangle, then the of the lengths of the legs is equal to the of the length of the . |
| Pythagorean Triples | A set of nonzero whole numbers a, b, and c that satisfy the equation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.Some common Pythagorean Triples include but are not limited to: |
| Problem 1 | What is the length of the hypotenuse of ΔABC? Do the side lengths of ΔABC for a Pythagorean triple?  |
| Problem 2 | What is the value of x? |
| Converse of the Pythagorean Theorem | If the sum of the squares of the lengths of sides of a triangle is to the square of third side, then the triangle is a . |
| Problem 3 | A triangle has side lengths 85, 84, and 13. Is the triangle a right triangle? |
| Obtuse Triangles | A triangle is obtuse if… ­­­­­­­­­­­­­­­­­­­­­­­­­­­­ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Acute Triangles | A triangle is acute if… \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Problem 4 | Is a triangle with side lengths 7, 8, and 9 acute, obtuse, or right? |

Application

1. What is the value of x in simplest radical form?



3. A walkway forms on diagonal of a square playground. The walkway is 24m long. To the nearest meter, how long is a side of the playground?

2. What is the value of x in simplest radical form?



4. A triangle has side lengths 6, 11, and 14. Is it acute, obtuse, or right?