

Warm Up: Simplify

1. $\sqrt{49}$
2. $\sqrt{288}$
3. $3\sqrt{6} \cdot \sqrt{3}$
4. $(3\sqrt{11})^2$
5. $\frac{5}{\sqrt{3}}$

Jan 26-12:11 PM

Unit 9 Day 2: Right Triangles/Trigonometry

9.1: Apply The Pythagorean Theorem and Use the Converse of the Pythagorean Theorem

Today's I Can Statements:

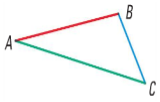
TR-2: I can use the Pythagorean theorem to find a missing side length in a right triangle

TR-3: I can use the Pythagorean converse to determine if a triangle is acute, right, or obtuse.

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I. Triangle Inequalities

THEOREM 5.12 Triangle Inequality Theorem
The sum of the lengths of any two sides of a triangle is greater than the length of the third side.



$AB + BC > AC$ $AC + BC > AB$ $AB + AC > BC$

Mar 6-11:57 AM

I. Triangle Inequalities Example

Test if the three side lengths given form a triangle:
5 cm, 6 cm, 10 cm

Mar 6-11:58 AM

I. Triangle Inequalities Example

Test if the three side lengths given form a triangle:
2 ft, 9 ft, 11 ft

Mar 6-11:58 AM

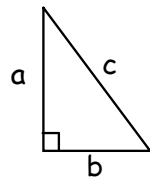
3 Ways to Classify Triangles by its Angles:

1. _____
2. _____
3. _____

Mar 10-11:58 AM

II. Pythagorean Thrm

Recall: **Pythagorean Theorem**

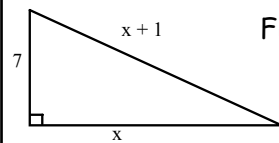


The hypotenuse is always the _____ side.

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II. Pythagorean Thrm

Example

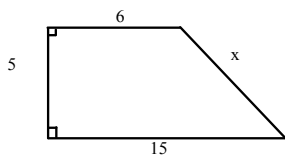


Find x.

Feb 3-2:48 PM

II. Pythagorean Thrm

Example



Find x.

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II. Pythagorean Thrm

Pythagorean Triples: a set of _____ positive integers a, b, and c that satisfy the equation $c^2 = a^2 + b^2$

Example

ex: 6, 8, 10

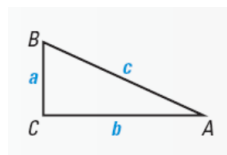
ex: 5, 12, 13

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III. Converse of Pythagorean Thrm

Converse of the Pythagorean Theorem

If _____, then triangle ABC is a _____ triangle.



Feb 3-4:13 PM

III. Converse of Pythagorean Thrm

What about the other types of triangles??

If c^2 ___ $a^2 + b^2$, then the triangle is _____.

If c^2 ___ $a^2 + b^2$, then the triangle is _____.

Feb 3-4:13 PM

III. Converse of Pythagorean Thrm **Example**

Decide whether the set of numbers can represent the side lengths of a triangle. If they can classify the triangle as right, acute, or obtuse.

a) 8, 18, 24

b) $2\sqrt{3}$, 4, 6

Feb 3-4:15 PM

Challenge!! **NO DECIMALS**

Solve for x in the partial spiral shown at the right.

Feb 3-2:50 PM

Tonight's Assignment:
Page 468 #3, 4, 7, 8, 12, 15-17, 22-28 even, 31

Remember: Unit 9 Quiz will be
Tuesday 2/18 Wednesday 2/19

Today's I Can Statements:

TR-3: I can use the Pythagorean theorem to find a missing side length in a right triangle

TR-4: I can use the Pythagorean converse to determine if a triangle is acute, right, or obtuse.

Feb 2-10:54 AM

Jan 27-8:23 AM