

Geometry
Guided Notes
Solving Right Triangles
Solving Right Triangles

Name: _____

Date: _____ Period: _____

“Solving Right Triangles” – finding the measure of all 6 parts; 3 angles and 3 sides

3 angles: 1 right; 2 acute

3 sides: 1 hypotenuse; 2 legs

You can solve a right triangle if you know the right angle and any of the following:

- the length of 2 sides
- the length of 1 sides and 1 acute angle
- the length of 1 side and 1 trigonometric ratio

To find the legs of a right triangle:

- Pythagorean Theorem
- Trigonometric Ratios and functions
- Special Right Triangle Ratios (30°-60°-90° or 45°-45°-90°)

To find the angles of a right triangle:

- Sum of the angles is 180°
- Inverse Trigonometric Functions

The Inverse Trigonometric Functions

To find the $m\angle A$ given a trigonometric ratio, use the inverse function on the calculator.

$$\sin A = x \text{ then } m\angle A = \sin^{-1} x$$

$$\cos A = x \text{ then } m\angle A = \cos^{-1} x$$

$$\tan A = x \text{ then } m\angle A = \tan^{-1} x$$

Keystrokes:

Example #2: Angle A is an acute angle. Use a calculator to approximate the $m\angle A$ to the nearest tenth of a degree.

1. $\tan A = .7$

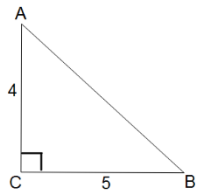
2. $\sin A = .9$

3. $\cos A = .1$

Geometry
Guided Notes

Solving Right Triangles

Example #3: Solve the right triangle.

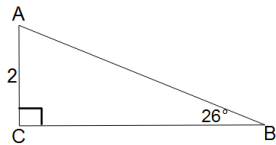


1. What do you have?
2. What do you need?
3. What are you going to use to find it?

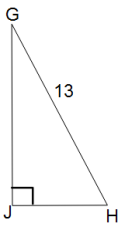
Name: _____

Date: _____ **Period:** _____

Example #4: Solve the right triangle.

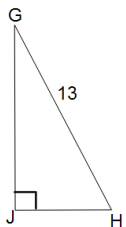


Example #5: Solve the right triangle.



$$\cos H = 0.4231$$

Example #6: Solve the right triangle.



$$\cos H = \frac{5}{13}$$