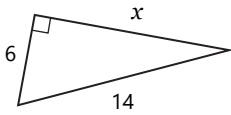


LESSON 166 Review: Right Triangles and Trigonometry

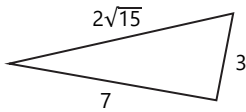
1. Find the value of x in simplest radical form.



2. Which is not a Pythagorean triple?

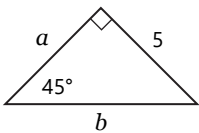
- A) 4, 8, 9 B) 6, 8, 10
C) 5, 12, 13 D) 8, 15, 17

3. Determine if the triangle is a right triangle.

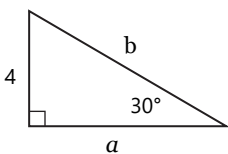


4. A triangle has side lengths 6, 10, and 12. Classify it as *acute*, *right*, or *obtuse*.

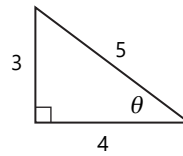
5. Find the values of the variables in simplest radical form.



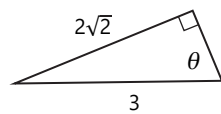
6. Find the values of the variables in simplest radical form.



7. Find $\sin \theta$, $\cos \theta$, and $\tan \theta$ in the triangle.



8. Find $\sin \theta$, $\cos \theta$, and $\tan \theta$ in the triangle.



9. Complete the table of the trigonometric ratios of special angles. Rationalize denominators, if necessary.

	30°	45°	60°
sin	$\frac{1}{2}$		
cos		$\frac{\sqrt{2}}{2}$	
tan			$\sqrt{3}$

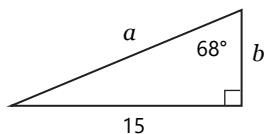
10. Use a calculator to find $\sin 53^\circ$, $\cos 53^\circ$ and $\tan 53^\circ$. Round to 4 decimal places.

11. Describe the relationship between the sine and cosine of complementary angles. Then write $\sin 25^\circ$ in terms of cosine and $\cos 25^\circ$ in terms of sine.

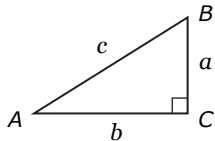
12. A right triangle has acute angles measuring x° and y° . What is $\sin y^\circ$ if $\cos x^\circ = 5/13$?

13. A right triangle has acute angles measuring x° and y° . What is $\tan y^\circ$ if $\tan x^\circ = 1/3$?

14. Find the values of the variables to the nearest tenth.



15. Which inverse trigonometric ratio can be used to find the measure of $\angle A$? Select all that apply.

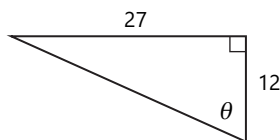


A) $\sin^{-1}\left(\frac{a}{c}\right)$ B) $\sin^{-1}\left(\frac{b}{c}\right)$

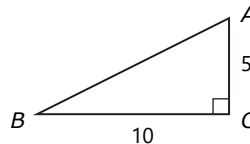
C) $\cos^{-1}\left(\frac{a}{c}\right)$ D) $\cos^{-1}\left(\frac{b}{c}\right)$

E) $\tan^{-1}\left(\frac{a}{b}\right)$ F) $\tan^{-1}\left(\frac{b}{a}\right)$

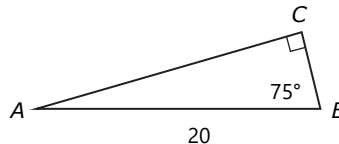
16. Find the measure of angle θ to the nearest tenth of a degree.



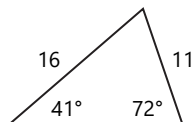
17. Solve the triangle. Round all calculations to the nearest tenth.



18. Solve the triangle. Round all calculations to the nearest tenth.



19. Find the area of the triangle to the nearest tenth.



20. A 5-m ladder leaning against a building makes an angle of 65° with the ground. How far is the top of the ladder from the ground? Round to the nearest tenth.

21. A lighthouse is 56 ft above sea level. The angle of depression from the top of the lighthouse to a boat is 20° . How far is the boat from the lighthouse? Round to the nearest tenth.

22. (HONORS) A plane flying at an altitude of 50,000 feet descends to an altitude of 10,000 feet over 10 ground miles. There are 5,280 feet in a mile. What is the angle of depression to the nearest degree?