

Test Review—Triangles

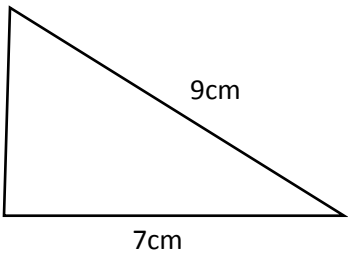
~Trigonometry~

v.1

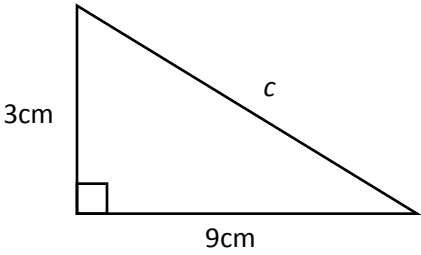
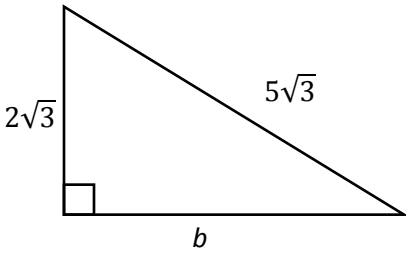
Name _____ Per _____

Date: September 2016

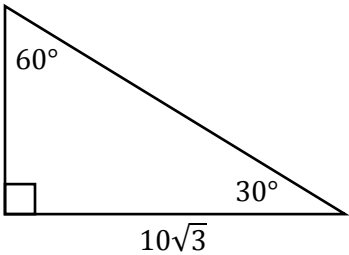
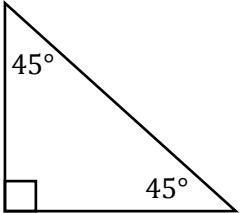
Show whether or not each triangle is a right triangle.

1) 	2) Sides are: 15, 20 and 25.
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Complete the right triangle:

3) 	4) 
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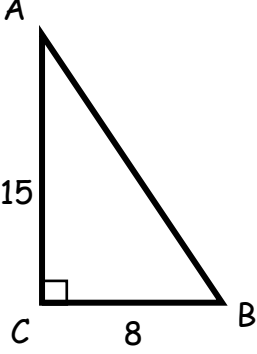
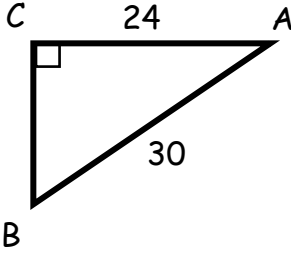
Fill in the missing sides:

5) 	6) 
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Draw a picture and show your work for calculating each length.

7) The perimeter of an equilateral triangle is 54 cm. Find the length of the altitude of the triangle.	8) The diagonal of a rectangle is 28 in. and intersect at an angle to make a 60° angle. Find the perimeter of the rectangle.
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Use the information given for each triangle to find the 6 trig ratios for $\angle A$.

9) 	$\sin A =$ $\cos A =$ $\tan A =$ $\csc A =$ $\sec A =$ $\cot A =$	10) 	$\sin A =$ $\cos A =$ $\tan A =$ $\csc A =$ $\sec A =$ $\cot A =$
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Use the one given trig ratio to find the remaining 5 trig ratios.

11) $\sin A =$	$\cos A =$	$\tan A =$
$\csc A =$	$\sec A = \frac{8}{5}$	$\cot A =$
12) $\sin A =$	$\cos A =$	$\tan A =$
$\csc A = \frac{\sqrt{34}}{5}$	$\sec A =$	$\cot A =$

Use the scenario given to draw a right triangle and answer the question.
(round to 2 decimal places)

13) A 30-foot ladder leaning against a building touches the side of the building 24 feet above to ground. What is the measurement of the angle formed by the ladder and the ground?

14) A jet airplane begins a steady climb of 18° and flies for 12,225 ground feet. What was its change in altitude?

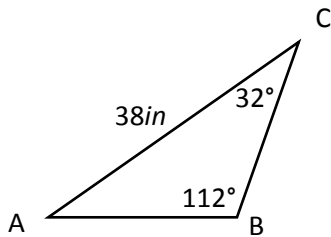
The LAW OF SINES is a powerful tool which is used to find missing sides or angles of ANY triangle with a given side and its opposite angle. The equation is:

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

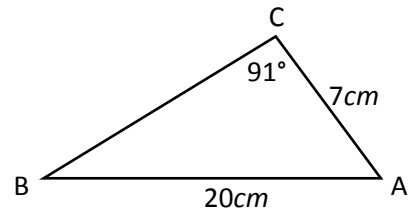
Because it is a simple proportion, it can also be used like this:

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

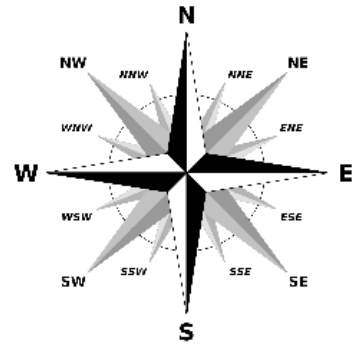
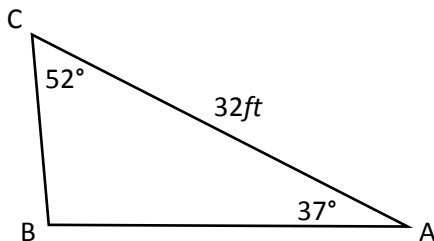
15) Find the measure of \overline{BC} :



16) Find the measure of $\angle B$:



17) Find the measure of \overline{AB} :

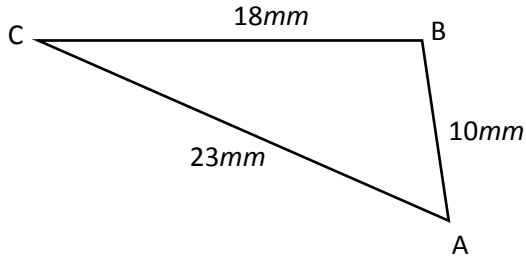


18) A plane leaves San Francisco and flies 55° south of east for 90 miles. The plane then changes course and flies due north for another 120 miles before turning and flying directly back to the airport. How many miles was the last stage back to the airport? (*hint: draw a picture*)

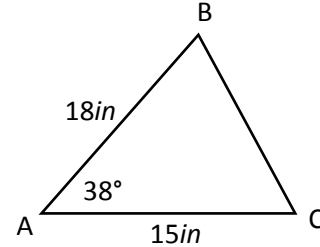
The LAW OF COSINES is a powerful tool which is used to find missing sides or angles of ANY triangle. The equation for calculating a missing side is: $a^2 = b^2 + c^2 - (2bc)\cos A$

The equation can be rewritten to find a missing angle like this: $\cos A = \frac{b^2 + c^2 - a^2}{2bc}$

19) Find the measure of $\angle C$:



20) Find all missing angles and sides:



21) An ecologist is studying a pair of lion cub fitted with radio-transmitters. One lion cub is 6 miles from the ecologist and the other is 4.5 miles from the ecologist. The ecologist measures the angle between his lines of sight to each lion cub to be 74° . To the nearest tenth of a mile, how far apart are the two lion cubs? (*hint: draw a picture*)