Math 2001 August 25, 2017 Homework 5

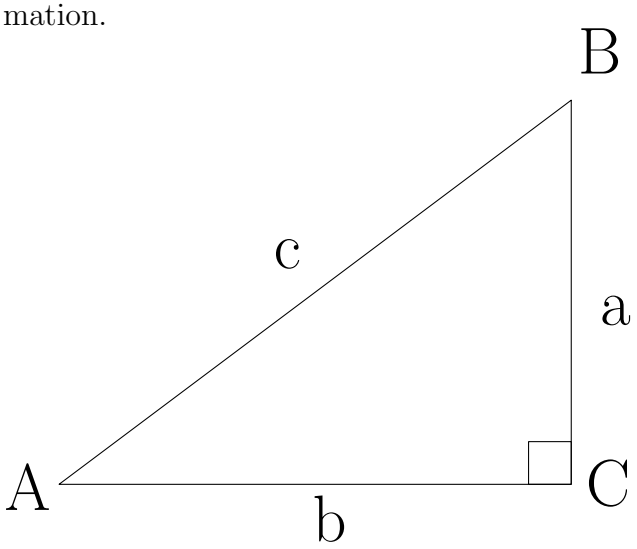
1) The side opposite angle A has length 11, and the adjacent side has length 11. Find the length of the hypotenuse, and find the value of the 6 trig functions of the angle A.

2) Suppose that $\sin A = \frac{5}{7}$. Sketch a reference right triangle with this angle A, calculate the unknown side, then find the value of the remaining 5 trig functions of A.

3) Suppose that $\tan A = \frac{8}{7}$. Sketch a reference right triangle with this angle A, calculate the unknown side, then find the value of the remaining 5 trig functions of A.

4) Suppose that $\sec A = 2.1565$. Sketch a reference right triangle with this angle A, calculate the unknown side, then find the value of the remaining 5 trig functions of A. Approximate the values to 4 or 5 significant digits.

Use the diagram below to find the value for each side a, b, and c of each triangle with the given information.



5) $a = 10, b = 11$

6) $a = 12.7, c = 61.2$

7) $a = 15, A = 17.2^o$

8) $a = 54, B = 41^o$

9) $c = 11, A = 23^o$

Which quadrant do each of the following angles lie?

10) -400^o

11) 3209^o

Find the reference angle for each angle.

12) -55^o

13) -166^o

14) If $\sin\phi = \frac{2}{3}$ and ϕ is in the first quadrant, find $\cot\phi$

15) If $\tan\phi = \frac{5}{2}$ and ϕ is in the 3d quadrant, find $\sec\phi$

16) If $\csc\phi = \frac{-7}{3}$ and ϕ is in the 4th quadrant, find $\cos\phi$

17) If $\cos\phi = .1435$ and ϕ is in the 4th quadrant, find $\tan\phi$