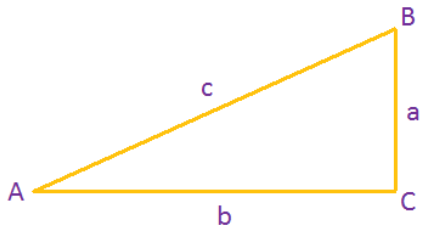
Name: _____

Applications and Models

Exercise 1: Solve each right triangle. Round your answers to two decimal places



1) $A = 20^0$, $b = 10$
2) $A = 34^0$, $b = 4$
3) $B = 54^0$, c=15
4) $B = 60^0$, c=13
5) $B = 50^0 12'$, a=14.2
6) $A = 45^0 22'$, c=320.4
7) $a = 25$, c=35
8) $b = 13$, c=20
9) $a = 5$, c=10
10) $a = 6$, c=10
11) $a = 24$, c=25
12) $a = 5$, c=13

Exercise 2: A man at ground level measures the angle of elevation to the top of a building to be 67°. If, at this point, he is 15 feet from the building, what is the height of the building?

Exercise 3: The same man now stands atop a building. He measures the angle of elevation to the building across the street to be 27° and the angle of depression (to the base of the building) to be 31°. If the two buildings are 50 feet apart, how tall is the taller building?

Exercise 4: A ship leaves port and sails 12 miles due west. It then turns and sails due north for 20 miles. At this point, at what bearing should the ship sail to get back to port?

Exercise 5: A pilot flies 10 miles with bearings N 30^0 E and then turns and flies 30 miles with bearings S 30^0 E. ow far from the original starting point is the pilot?