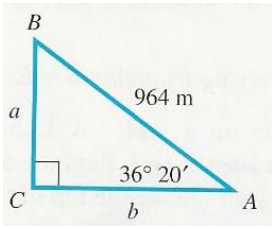
Math 3 Name:_____

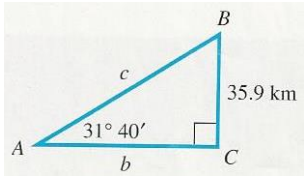
Unit 1.7 Solving Right Triangles PRACTICE

Solve each right triangle.

1) 

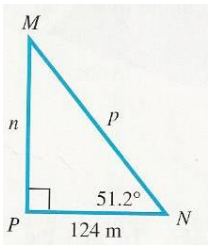
A = _____ B = _____ C = _____

a = _____ b = _____ c = _____

2) 

A = _____ B = _____ C = _____

a = _____ b = _____ c = _____

3) 

M = _____ N = _____ P = _____

m = _____ n = _____ p = _____

Solve each right triangle. In each case $C = 90°$. If angle information is given in degrees and minutes, give answers in the same way. If given decimal degrees, do likewise in answers. When two sides are given, give angles in degrees and minutes.

4) $A = 28.00°, c = 17.4\ ft$

A = _____ B = _____ C = _____

a = _____ b = _____ c = _____

5) $B = 46.00°, c = 29.7\ m$

A = _____ B = _____ C = _____

a = _____ b = _____ c = _____

6) $B = 73.00°, b = 128\ in.$

A = _____ B = _____ C = _____

a = _____ b = _____ c = _____

7) $A = 53°24', c = 387.1\ ft$

A = _____ B = _____ C = _____

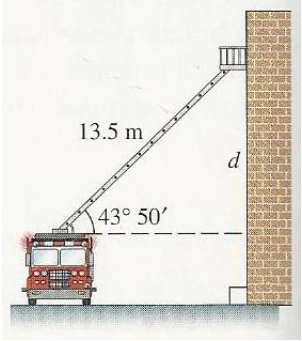
a = _____ b = _____ c = _____

8) $b = 219\ m, c = 647\ m$

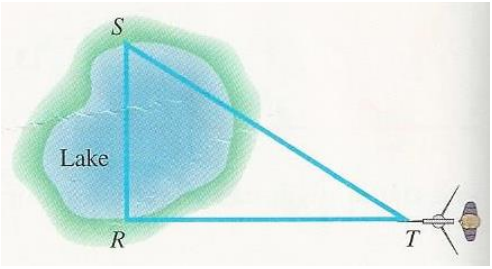
A = _____ B = _____ C = _____

a = _____ b = _____ c = _____

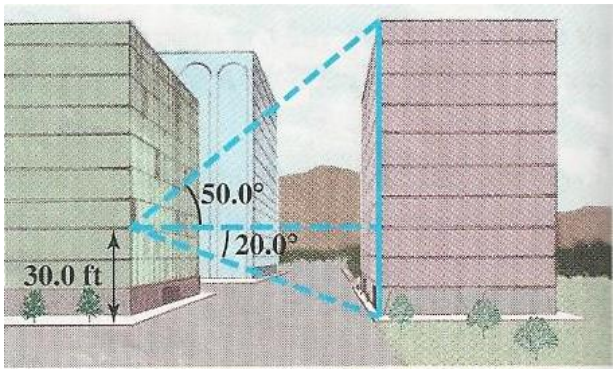
9) A 13.5 m fire truck ladder is leaning against a wall. Find the distance d the ladder goes up the wall (above the top of the fire truck) if the ladder makes an angle of $43°50'$ with the horizontal.



10) To find the distance RS across a lake, a surveyor lays off RT = 53.1 m, with angle $T = 32°10'$ and angle $S = 57°50'$. Find length RS



11) From a window 30 ft above the street, the angle of elevation to the top of the building across the street is $50.0°$ and the angle of depression to the base of this building is $20.0°$. Find the height of the building across the street.



12) To determine the diameter of the sun, an astronomer might sight with a transit (a device used by surveyors for measuring angles) first to one edge of the sun and then to the other, finding that the included angle equals 32'. Assuming that the distance d from Earth to the sun is 92,919,800 mi, calculate the diameter of the sun.