

The Sine Ratio Worksheet

1) Use your calculator to determine the value of each of the following sine ratios to four decimal places.

a) $\sin 30^\circ$

b) $\sin 48^\circ$

c) $\sin 62^\circ$

d) $\sin 77^\circ$

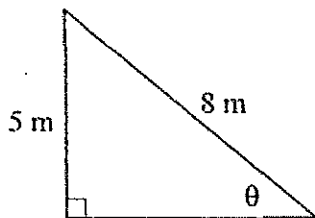
2) Calculate the angle to the nearest degree.

a) $\sin D = 0.5491$

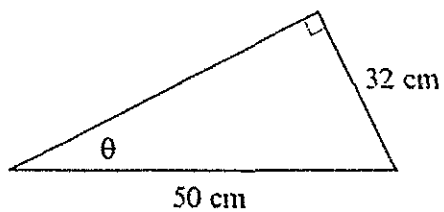
b) $\sin H = 0.9998$

3) Solve for the indicated angle in the following diagrams.

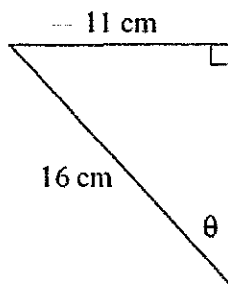
a)

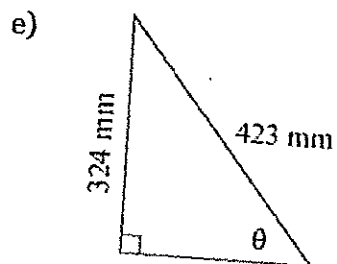
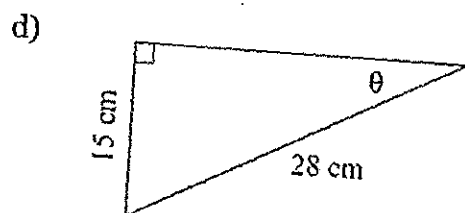


b)

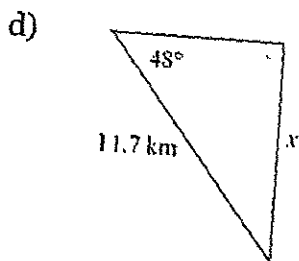
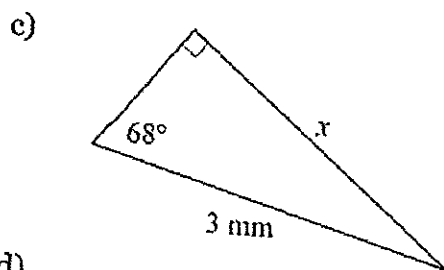
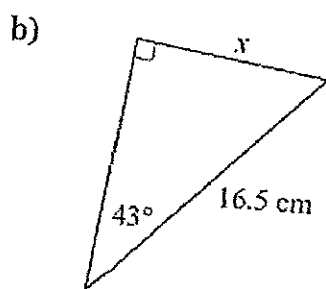
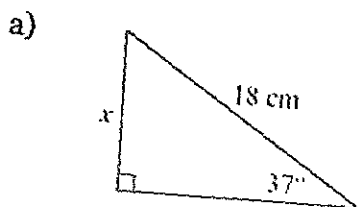


c)



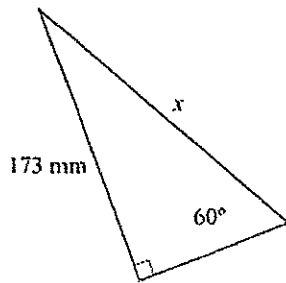


4) Find the opposite side in the following diagrams. Round answers to one decimal place.

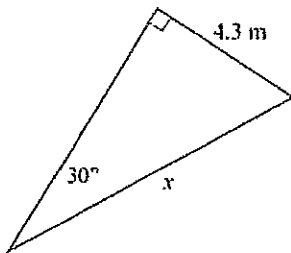


5) Find the length of the hypotenuse, to one decimal place, in the following diagrams.

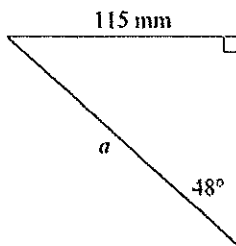
a)



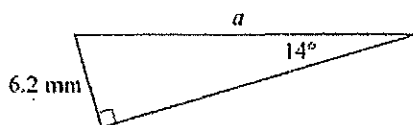
b)



c)



d)



6) A rafter makes an angle of 28° with the horizontal. If the rafter is 15 feet long, what is the height at the rafter's peak? Draw a diagram.

- 7) How high is a weather balloon that is tied to the ground if it is attached to a 15 metre string and the angle between the string and the ground is 35° ? Draw a diagram.
- 8) How long is a guy wire that is attached 4.2 metres up a pole if it makes an angle of 52° with the ground? Draw a diagram.
- 9) A boat is carried with the current at an angle of 43° to the shore. If the river is approximately 15 metres wide, how far does the boat travel before reaching the opposite shore? Draw a diagram.

Answers:

1) a) 0.5000 b) 0.7431 c) 0.8829 d) 0.9744 2) a) 33° b) 89° 3) a) 38.7° b) 39.8°
c) 43.4° d) 32.4° e) 50° 4) a) 10.8 cm b) 11.3 cm c) 2.8 mm d) 8.7 km 5) a) 199.8 mm
b) 8.6 m c) 154.7 mm d) 25.6 mm 6) 7.04 ft 7) 8.6m 8) 5.3 m 9) 22m