

# Trigonometry Worksheet 7

For questions 1-6, find the area of the given triangle to the nearest whole square unit.

1.  $\triangle MNO$  has adjacent sides with length 12 and 17 and an included angle of  $41^\circ$ .
2.  $\triangle JKL$  has adjacent sides with length 19 and 22 and an included angle of  $18^\circ$ .
3.  $\triangle ABC$  has adjacent sides with length 19 and 22 and an included angle of  $135^\circ$ .
4.  $\triangle DEF$  has adjacent sides of length 40 and 30 and an included angle of  $105^\circ$ .
5.  $\triangle GHI$  has adjacent sides of length 14 and 16 and an included angle of  $60^\circ$ .
6.  $\triangle JKL$  is an isosceles right triangle with hypotenuse  $\sqrt{128}$ .
7.  $\triangle DEF$  has adjacent sides of lengths 10 and 10 and an angle of  $60^\circ$  that is

not included. What is the area of the triangle?

8. A K'nex enthusiast constructs a triangle using three metal plates. Two of them have lengths 15 and 18 units and the angle between these two plates is  $78^\circ$ . To the nearest square unit, what is the area of the triangle?
9. A canvas sail is in the shape of a triangle with sides 9 feet, 11 feet, and 14 feet long. To the nearest tenth of a square foot, what is the area of the sail? (Hint: use the Law of Cosines,  $c^2 = a^2 + b^2 - 2ab \cos C$ .)
10. Authorities with the EPA are calculating the area of the river delta. The delta measures 16 miles, 12 miles, and 10 miles on its sides. To the nearest hundredth of a square mile, what is the area of the delta? (Hint: use the Law of Cosines,  $c^2 = a^2 + b^2 - 2ab \cos C$ .)