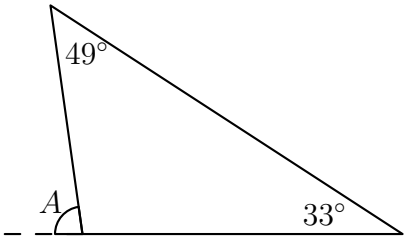
Name _____

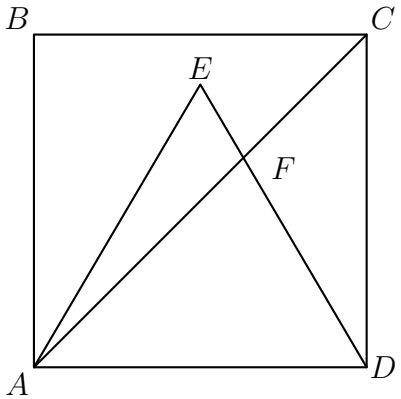
triangles

1. _____ A triangle with an area of 120 mm^2 has a height of 10 mm. What is the area of a similar triangle with a height of 20 mm?

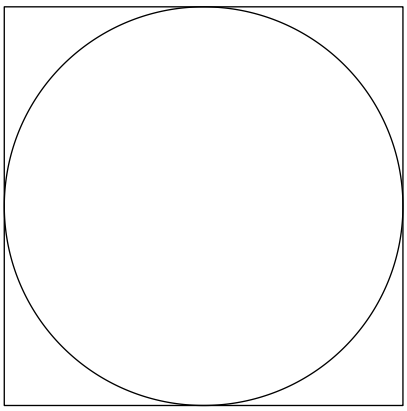
2. _____ What is the degree measure of angle A in the figure shown here?



3. _____ The figure shows equilateral triangle AED inside square $ABCD$. Segment AC is a diagonal of the square. What is the measure of $\angle EFC$?

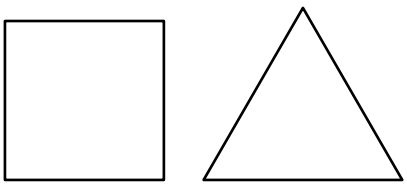


4. _____ In the figure, a circle with radius 4 ft is inscribed in a square. What is the area of the square?

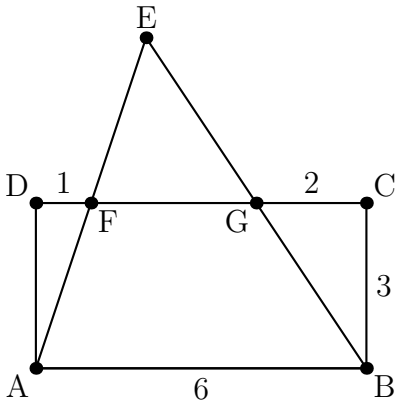


5. _____ A right triangle has a hypotenuse of 10 m and a perimeter of 22 m. In square meters, what is the area of the triangle?

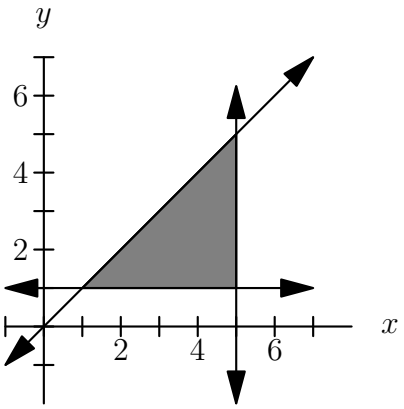
6. _____ A square and an equilateral triangle have equal perimeters. The area of the triangle is $16\sqrt{3}$ square centimeters. How long, in centimeters, is a diagonal of the square? Express your answer in simplest radical form.



7. _____ In rectangle $ABCD$, side AB measures 6 units and side BC measures 3 units, as shown. Points F and G are on side CD with segment DF measuring 1 unit and segment GC measuring 2 units, and lines AF and BG intersect at E. What is the area of triangle AEB?



8. _____ A region in the coordinate plane is bounded by $y = x$, $x = 5$ and $y = 1$. What is the area of this region?



9. _____ Two similar right triangles have areas of 6 square inches and 150 square inches. The length of the hypotenuse of the smaller triangle is 5 inches. What is the sum of the lengths of the legs of the larger triangle?

10. _____ Isosceles triangle XYZ is inscribed in circle Q, as shown. If diameter XZ is 2 inches, what is the area of $\triangle XYZ$?