Geometry

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Pre-Calculus Mathematics for Business and Economics

Sub-Topics

1. Working an equation: circles
2. Distance in the plane
3. Finding a side length of a rectangle
4. Pythagorean Theorem
5. Area of a triangle
6. Find the angle measure of a triangle

The Equation of a Circle

A circle has an equation of the form:

$$(x-h)^2\,(y-k)^2 = r^2$$

- (h, k) are the coordinates for the center of the circle.
- r is the radius of the circle.
- x is the x-axis coordinate on the circle.
- y is the y-axis coordinate on the circle.

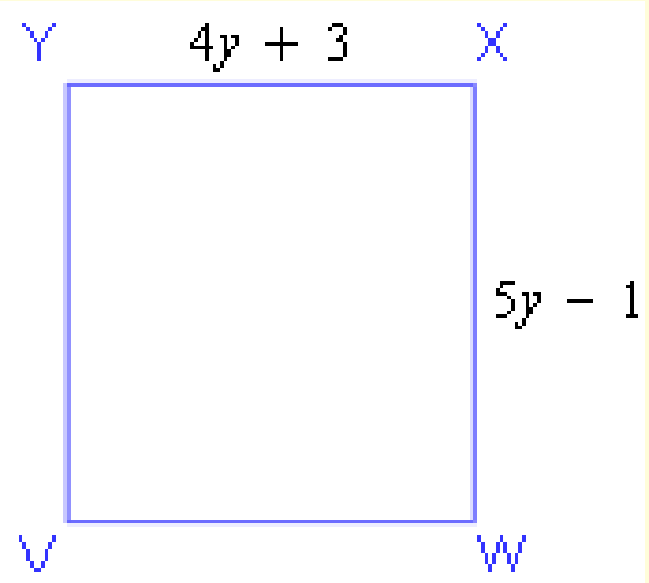
Use this equation to solve the next two problems.

Graph the circle: $x^2 + y^2 + 2x - 4y - 11 = 0$

Equation of a circle: Find an equation of the circle that has center $(-3, 1)$ and passes through $(3, -2)$.

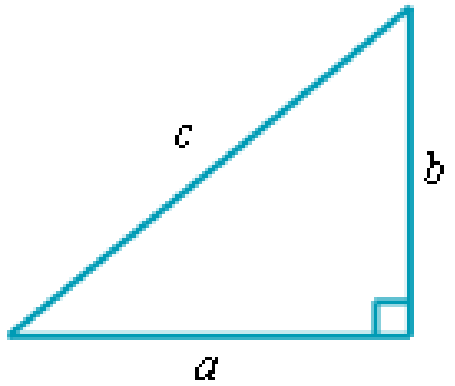
Distance in the plane: calculate the distance between the points $H = (-9, 8)$ and $F = (-2, 4)$ in the coordinate plane. Give an exact answer (not a decimal approximation).

The perimeter of the rectangle below is 112 units. Find the length of side $\bar{VW}$. Write your answer without variables.

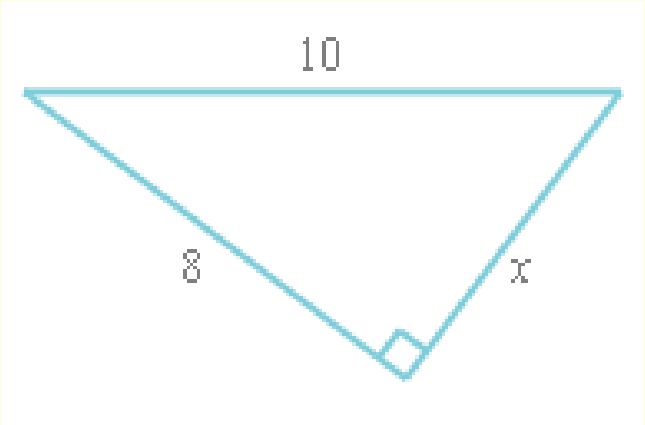


Pythagorean Theorem

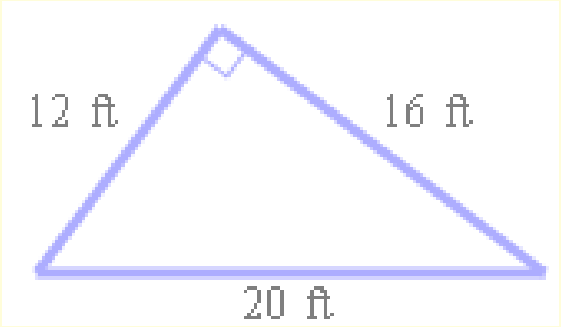
$$a^2 + b^2 = c^2$$



Pythagorean Theorem: for the following right triangle, find the side length, x . Round your answer to the nearest hundredth.



Area of a triangle: find the area of the triangle below. Be sure to include the correct unit in your answer.



Angle Measure of a Triangle: Find the value of x