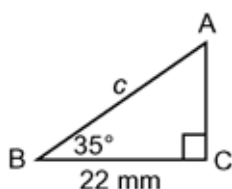


Prerequisite Skills

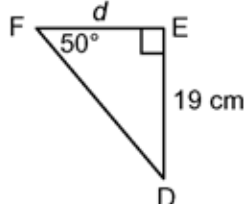
Trigonometry

1. Use the sine, cosine, or tangent ratio to determine the length of the side indicated, to the nearest unit.

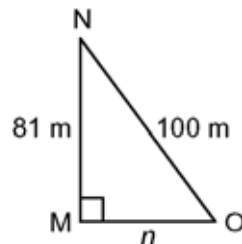
a)



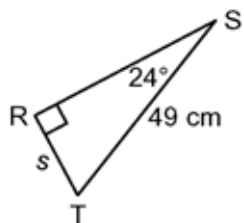
b)



c)

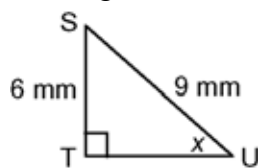


d)

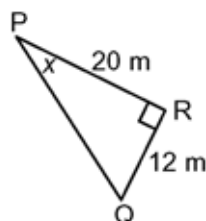


2. Determine the measure of angle x , to the nearest degree.

a)



b)



Evaluate Trigonometric Expressions

3. Evaluate with a calculator, to four decimal places.
 a) $\cos 30^\circ$ b) $\sin 90^\circ$ c) $\tan 75^\circ$
4. Evaluate each expression for the value indicated. Round to four decimal places.
 a) $\cos \theta$, for $\theta = 27^\circ$
 b) $-\sin \theta$, for $\theta = 80^\circ$
 c) $2 \tan \theta - 1$, for $\theta = 60^\circ$
 d) $-\frac{1}{4} \sin(\theta - 45^\circ) + \frac{1}{2}$, for $\theta = 90^\circ$

Draw Angles

5. Use a protractor to draw each angle.
 a) 15° b) 60°
 c) 135° d) 240°

Plot Ordered Pairs

6. a) Plot the ordered pairs.
 $(0, 0), (0, 4), (-2, 4), (-2, 0), (-3, 0),$
 $(-3, -1), (-1, -5), (1, -1), (1, 0)$
 b) Describe the pattern made by the points.

Transformations of Quadratics

7. Write an equation for the quadratic function that results from each transformation.
 a) The graph of $y = x^2$ is translated 3 units downward.
 b) The graph of $y = x^2$ is translated 1 unit upward and 7 units to the right.
 c) The graph of $y = x^2$ is compressed vertically by a factor of $\frac{1}{2}$, and then translated 2 units to the left.
 d) The graph of $y = x^2$ is reflected in the x -axis, stretched vertically by a factor of 3, and then translated 4 units downward.
8. Use transformations to sketch a graph of each parabola. Label the vertex of each parabola with its coordinates.
 a) $y = 2x^2 - 2$
 b) $y = -(x - 1)^2 + 5$

Domain and Range

9. Write the meaning of each domain and range statement.
 a) domain = $\{x \in \mathbf{R} \mid x \leq -4\}$
 b) range = $\{y \in \mathbf{R} \mid -1 \leq y \leq 9\}$
 c) domain = $\{x \in \mathbf{R} \mid x > 0\}$
 d) range = $\{y \in \mathbf{R}\}$
10. Sketch a graph of each function. Then, write the domain and range for each function.
 a) $y = -x^2$ b) $y = 2(x + 1)^2 - 3$