

Part A: Right Triangle Trigonometry

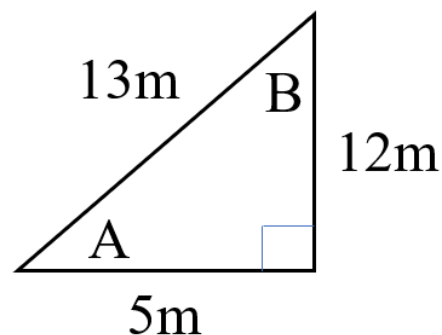
- 1.
- Determine**
- if each statement is true or false.

A) $\tan(A) = \frac{12}{5}$ True False

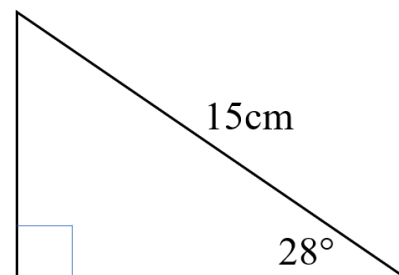
B) $\sin(B) = \frac{13}{5}$ True False

C) $\cos(B) = \frac{12}{13}$ True False

D) $\tan(B) = \frac{12}{5}$ True False



- 2.
- Solve**
- the triangle by finding all the missing angle and side measures.



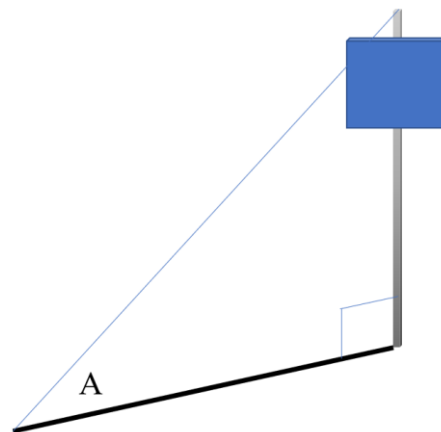
3. A street sign extends a shadow 15 feet long. If the angle of elevation (A) is
- 38°
- ,
- select**
- all the statements below that can be used to find the height of the street sign.

A) $x = \frac{\tan 52^\circ}{15}$

B) $x = \frac{\tan 38^\circ}{15}$

C) $x = 15 \tan 38^\circ$

D) $x = 15 \tan 52^\circ$



Part B: Radians [F-TF.1, F-TF.2]

- 4.
- Match**
- each degree measure with its corresponding radian measure.

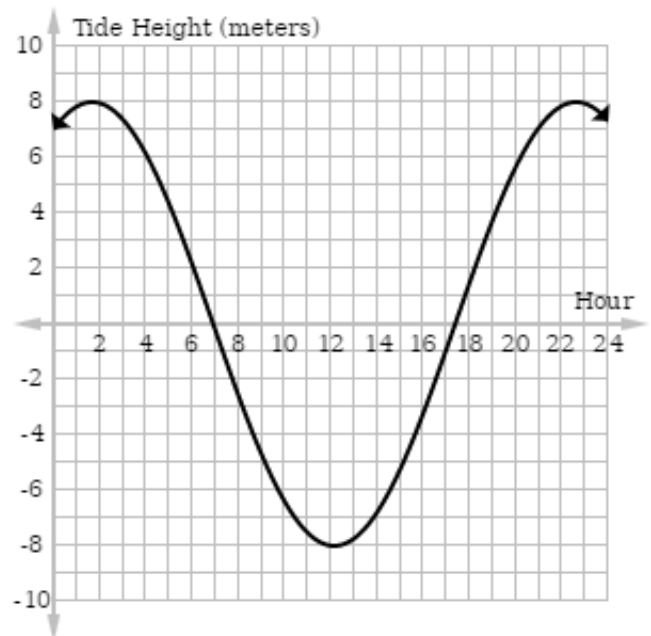
Degree Measures: 60° 45° 120° 180° 135° Radian Measures: $\frac{3\pi}{4}$ $\frac{\pi}{3}$ π $\frac{\pi}{4}$ $\frac{2\pi}{3}$

Part C: Periodic Functions

5. The periodic function shows tide level, $f(x)$, in meters, with respect to time, x , hours.

A) **Determine** the approximate number of hours that passed between the two times shown when the tide was at max height.

B) **Determine** the approximate average rate of change in the tide between hour 7 and hour 21.



Part C: Graphing, Transforming, & Key Features of Trigonometric Functions [F-IF.7, F-BF.3, F-IF.4]

6. **Graph** the function. **State** the amplitude, period, and midline of the function.

$$f(x) = 2\cos(x)$$

Amplitude:

Period:

Midline:

Part D: Trigonometric Identity [F-TF.8]

7. **Provide** two points on the unit circle, but not on the x-axis or y-axis, that satisfy the Pythagorean identity, $\sin^2 \theta + \cos^2 \theta = 1$.