MM4A2b. Understand and apply the six trigonometric functions as functions of general angles in standard position.
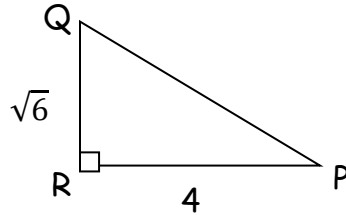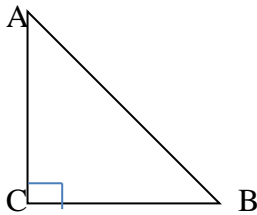
1. Referring to the diagram, find the value of the six trigonometric ratios for Q.

2. Find the six trigonometric functions for θ if $\sec\theta = \frac{11}{5}$.

3. A ladder, 470 cm long, leans against a building. If the angle between the ground and the ladder is 62 degrees, how far from the wall is the bottom of the ladder?

4. If angle B $= 41^{\circ}$ and a $= 7.2$cm what is the value of c?

5. If b $= 4.4$ and c $= 6.7$cm what is the value of angle B?
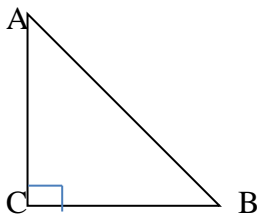
MM4A2c. Find values of trigonometric functions using points on the terminal sides of angles in the standard position.

6. Find the value of the six trig functions for angle θ in standard position if the point (-3, 5) lies on its terminal side.

7. Suppose θ is an angle in standard position whose terminal side lies in Quadrant IV. If $\sin\theta = -\frac{2}{5}$, find the value of the other five trig functions.

MM4A2a. Define and understand angles measured in degrees and radians, including but not limited to 0°, 30°, 45°, 60°, 90°, their multiples, and equivalences.

    8. Identify all coterminal angles between -360° and 360°
        a. -512°

        b. 630°

    9. Change $-\frac{2\pi}{9}$ radians to degree measure.

    10. Convert 230° into radian measure:

    11. Find the measure of the reference angle
        a. 97°

        b. -400°

        c. 799°

        d. -123°

MM4A2e. Find values of trigonometric functions using the unit circle.

    12. Find the exact value of the following without using a calculator:
        a. $\cos 120°$

        b. $\tan -300°$

        c. $\csc 135°$

        d. $\sec \frac{\pi}{3}$

        e. $\sin \frac{13\pi}{6}$

        f. $\cot(-\frac{15\pi}{4})$