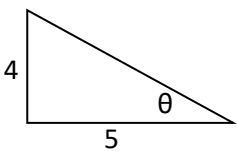


Quiz Review 4.1 – 4.3

<p>1. Quiz Review Convert to degrees. Be sure to round your answer to two decimal places.</p> <p>a. <math>\frac{5\pi}{7}</math></p> <p>b. 4.7</p>	<p>2. Convert the angle in degrees to radians in terms of <math>\pi</math>. (fully simplify)</p> <p>a. <math>138^\circ</math></p> <p>b. <math>-320^\circ</math></p>
<p>3. The given angle is in standard position. Determine the quadrant in which the angle lies and sketch the angle.</p> <p>a. <math>-349^\circ</math></p> <p>b. <math>226^\circ</math></p> <p>c. <math>\frac{8\pi}{3}</math></p> <p>d. <math>-\frac{2\pi}{7}</math></p>	<p>4. Find two coterminal angles of the following angles (one positive and one negative):</p> <p>a. <math>-79^\circ</math></p> <p>b. <math>558^\circ</math></p> <p>c. <math>-5\pi</math></p> <p>d. <math>\frac{10\pi}{3}</math></p>
<p>5. All of the following accurately describe a specific right triangle. Create a labeled sketch with all sides and angles identified.</p> $\sin A = \frac{20}{29}, \quad \tan B = \frac{21}{20}$	<p>6. Find the exact values of the six trigonometric functions of the angle <math>\theta</math>. (use Pythagorean theorem to find the unknown side)</p> 
<p>7. A 20-foot ladder leaning against the side of a house makes a <math>75^\circ</math> with the ground. How far up the side of the house does the ladder reach?</p>	<p>8. From a 150-foot observation tower on the coast, a Coast Guard officer sights a boat in difficulty. The angle of depression to the boat is <math>4^\circ</math>. How far is the boat from the shoreline?</p>
<p>9. An amateur radio operator erects a vertical tower for his antenna. The operator stands 70 feet from the base of the tower. If the direct distance to the top of the tower is 140, find the angle of elevation to the top of the tower.</p>	<p>10. A boy flying a kite lets out 300 feet of string which makes an angle of 38 degrees with the ground. Assuming that the string is straight, how high above the ground is the kite?</p>
<p>11. An observer at the top of a 30-story building spots a car on the ground at an angle of depression of <math>64^\circ</math>. Assume each story is 10 feet high, and that the ground is horizontal.</p> <p>a) Make a labeled sketch of the given information.</p> <p>b) To the nearest foot, determine how far away the car is from the building.</p> <p>c) To the nearest foot, determine the direct distance between the observer at the top of the building and the car itself.</p>	<p>12. A merry go round has a diameter of 30 feet. A person standing on the edge rotates 15 times every minute.</p> <p>a) Find the angular speed of the person</p> <p>b) Find the linear speed of the person in miles per hour.</p> <p>c) If a person on the edge of the merry go round was travelling at 25 mph, how many rotations would the merry go round make each minute?</p>
<p>13. A record has a radius of 3 inches and revolves at 45 rpm.</p> <p>a) Find the angular speed of the record.</p> <p>b) Find the linear speed of the outside edge of the record.</p>	<p>14. A bicyclist is riding at an average speed of 12 miles per hour. Find the number of revolutions per second if the diameter of the wheel is 29 inches.</p>