

<p>24. Solve the equations.</p> <p>A. $\log_3(2x + 4) = 4$</p> <p>B. $\log_4(5) + \log_4(2x + 1) = \log_4(3x + 10)$</p>	<p>25. Solve the equations.</p> <p>A. $16^{x+2} = 32$</p> <p>B. $7^{3x} = 28$</p>
<p>26. Suppose you invest \$3,500 at $3\frac{1}{2}\%$ interest compounded monthly. How much money will you have after 5 years?</p>	<p>27. An investment of \$6,500 grew to \$8,000 when 3.5% interest was compounded quarterly. How long did it take?</p>
<p>28. Express in degrees: $\frac{7\pi}{6}$</p> <p>29. Express in radians: -150°</p>	<p>30. Give a positive and negative angle, each coterminal with the angle given. (Coterminal angles end in exactly the same place.)</p> <p>A. 110° (use degrees)</p> <p>B. $-\frac{5\pi}{12}$ (use radians)</p>
<p>31. The central angle of a sector of a circle is 3.8 radians, and the arc length is 11.4 units. Find the radius of the sector.</p>	<p>32. The arc length of a sector of a circle is 4 inches and the radius is 7 cm inches. Find the central angle measure in degrees. <i>inches</i></p>
<p>33. Find the measure of the smallest angle of a 5-12-13 right triangle.</p>	<p>34. If θ is an acute angle of a right triangle and $\sin \theta = \frac{5}{9}$, find the values of the other five trigonometric functions.</p>
<p>35. Find the value of $\sec(48^\circ)$.</p> <p>36. Find the value of $\cot(2.65)$.</p>	<p>37. A right triangle has one acute angle that measures 35°, and the hypotenuse is 15.4. Find the lengths of the two legs of the triangle.</p>

<p>38. Given an angle A in standard position, give the quadrant that is described.</p> <p>A. $\sec A > 0, \cot A < 0$</p> <p>B. $\csc A < 0, \tan A > 0$</p>	<p>39. An angle passes through (5, -3). Give the value of all six trigonometric functions.</p>
<p>40. Give the amplitude, period, horizontal shift, vertical shift, maximum value, minimum value.</p> <p>$y = 4 \sin \pi (x - \frac{1}{2}) + 3$</p>	<p>41. Evaluate: $\sec \left(\tan^{-1} \left(-\frac{2}{3} \right) \right)$</p>
<p>42. Write an algebraic expression for the following.</p> <p>$\cot \left(\sin^{-1} \left(\frac{1}{x} \right) \right)$</p>	<p>43. Simplify the following:</p> <p>A. $\frac{\sin A}{1 - \cos^2 A}$</p> <p>B. $\sec A \cdot \tan A (1 - \sin^2 A)$</p> <p>C. $\cot^2 A \cdot \sec A \cdot \tan A$</p>
<p>44. Find all solutions for $0 \leq x < 360^\circ$.</p> <p>$\cot x = -0.258$</p>	<p>45. Find all solutions for $0 \leq x < 2\pi$.</p> <p>$\sin^2 x = 0.367$</p>
<p>You will also need to know how to answer questions related to the Ferris wheel graph, and answer questions related to a sine / cosine graph. Last few quiz reviews and Olympiad reviews should help.</p>	