

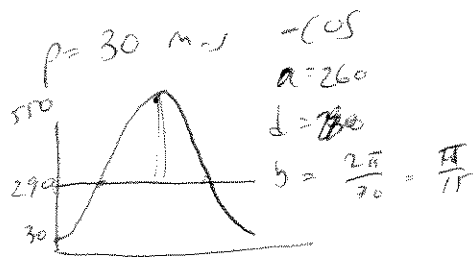
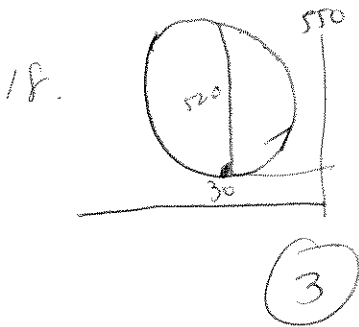
# Assignment 4

13.  $g(x) = (f(x) + 4) \cdot 3$   
 $\log_2 x \rightarrow 3 \log_2(x) + 4$   
 (3)

15.  $10,000 = P \left(1 + \frac{.035}{12}\right)^{12(3)}$   
 $P = 9004.62$   
 (1)

16.  $\frac{x^2 + 7x - 40}{x-3} =$   

$$\begin{array}{r} x+8 + \frac{4}{x-3} \\ x \overline{) x^2 + 7x - 40} \\ \underline{-3x - 24} \phantom{0} \\ -3x - 24 \phantom{0} \end{array}$$
  
 (1)



20.  $a_1 = 16, a_2 = 20, a_3 = 24, a_4 = 28, d = 4$   
 $a_n = 16 + 4(n-1)$   
 $a_{15} = 16 + 4(14) = 72$   
 (2)

21.  $AB = \frac{3}{2}x - 3$   
 $AB' = x - 4$   
 (4)

23.  $a_1 = 3, r = 2$

$a_n = a_1 r^{n-1}$

$a_{13} = 3(2)^{12} = 12,288$   
 (3)

24.  $y = ab^x, a = 300$

use (10, 100)

$100 = 300(b)^{10}$

$\sqrt[10]{\frac{1}{3}} = \sqrt[10]{b^{-1}}$

$b = .896$

$y = 300(.896)^{100}$

NO CORRECT ANSWER

32.  $\frac{3(x-1)}{x-3} = \frac{1(x-3)}{x-1} + \frac{7}{(x-1)(x+3)}$   
 multiply each term to get a common denominator  
~~cancel out the denominator~~  
 $3(x-1) = x-3 + 7$  distribute 3  
 $3x-3 = x+4$  combine like terms +  
 $2x = 7$  simplify  
 $x = 7/2$

33.  $y = 26.03 \sin(.49x - 1.86) + 58.85$   
 September  $x = 9, 60^\circ$

$74 - 60 = 14^\circ$  off