Math 12

Final Exam Review

Non-calculator Part:

1. Determine the exact value of cot
2. -
3. -
4. Determine the period of the function f(x) =
5. π/4
6. π/2
7. 4
8. 8
9. Given the point (-12, -5), determine sec θ.
10. Which equation represents the function graphed below?



1. Determine the range of y = -5sin
2. 3≤y≤8
3. 3≤y≤13
4. -13≤y≤-3
5. -13≤y≤13
6. Simplify sin (2x – π)
7. 2sinxcosx
8. -2sinxcosx
9. cos2x – sin2x
10. sin2x – cos2x
11. Solve -2cosx – 1 = 0 , 0≤x≤2π
12. Determine the general solution for sin2x = -1/2

A. (*n* is any integer)

B. (*n* is any integer)

C. (*n* is any integer)

D. (*n* is any integer)

1. Determine the domain of the function y = log (x – 5)
2. x≥ 5
3. x> 5
4. x≤ 5
5. x< 5
6. Determine log x if x =
7. logx – log 2 + 3 log y
8. logx – 3log2 + 3logy
9. logx – log2 – 3logy
10. logx- 3log2 – 3logy
11. Simplify log5 5x

5log52

4. x – 2
5. A particular type of bacteria multiplies 5-fold every 30 minutes. Initially there are 100 bacteria. Determine an expression for the number of bacteria after k minutes.
6. 100 (5) 30k
7. 100
8. 100
9. What is the value of x if 

A. 48 B. 64 C. 81 D. 96

1. Solve for x: a x – 2 = bx
2. If the graph of the function y = f(x) is horizontally compressed by a factor of 5 and then translated 3 units to the left, determine the equation of this new function.
3. y = f(5(x + 3))
4. y =f
5. y = f(5x + 3)
6. y =
7. Which infinite geometric series has the sum of ?

A.

B.

C.

D.

1. Which expression below represents the *n*th term of this sequence?
3. B.
4. C.
5. D.
6. Which function represents the graph shown below?



|  |  |  |  |
| --- | --- | --- | --- |
| **A.** |  | **C.** |  |
| **B.** |  | **D.** |  |

Written:

1. Factor fully:

(4 marks)

1. On the grid provided, sketch the graph of x = f(y). (2 marks)



1. Solve algebraically: 2log2(3 – x) – log2(6 – x) = 2 (5 marks)
2. Solve algebraically: (4 marks)
3. Solve algebraically, where –

3cos2x + cosx – 2 = 0 (3 marks)

If possible, answer using exact values; otherwise answer accurately to at least

2 decimal places.

1. Determine the general solution for cos 3x = ½ . (2 marks)

Solve over the set of real numbers using exact values.

1. Prove: (4 marks)