1) If $\log_b(x+a) = d$, where $b > 0$ and $(x+a) > 0$, then in terms of a, b, and d, x is equal to

(A) $d - a^b$

(B) $d - b^a$

(C) $d^b - a$

(D) $b^d - a$

2) The graphs of the logarithmic functions $y = \log_b x$, $b > 1$ and $y = \log_a x$, $0 < a < 1$ will intersect at the ordered pair

(A) $(0, 0)$

(B) $(0, 1)$

(C) $(1, 0)$

(D) $(1, 1)$

3) If $\log_b x = l$, $\log_b y = m$, and $\log_b z = n$, the expression $l + m + n$ in terms of x, y, and z can be expressed as

(A) xyz

(B) $\log_b xyz$

(C) $x + y + z$

(D) $(\log_b x)(\log_b y)(\log_b z)$

4) The population of a small city is changing according to the formula $P = 10000\left(10^{-0.035y}\right)$, where y is the time, in years, from the beginning of the year 1998. In which year did the population first fall below 6000?

(A) 2002

(B) 2003

(C) 2004

(D) 2005

5) The reference angle for an angle of measure $-\frac{25\pi}{12}$ rad is the same as the reference angle for an angle of measure

(A) $\frac{19\pi}{12}$ rad

(B) $\frac{17\pi}{12}$ rad

(C) $\frac{5\pi}{12}$ rad

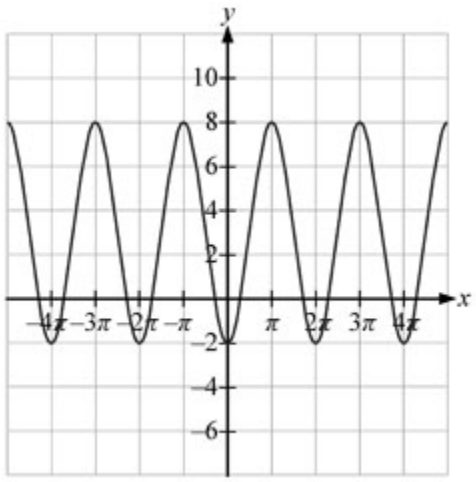
(D) $\frac{\pi}{12}$ rad

6) The exact value of $\tan\left(\frac{3\pi}{4}\right) - \tan\left(\frac{7\pi}{4}\right) + \tan(\pi)$ is

(A) 2
(B) 0
(C) -2
(D) undefined

7) How many times does the function $y = \csc\theta$ have a value of 1 when $0 \le \theta \le 10\pi$?

8)



Which of the following cosine functions best defines the given graph?

(A) $y = 5\cos x + 3$

(B) $y = 5\cos x - 3$

(C) $y = -5\cos x + 3$

(D) $y = -5\cos x - 3$

9) The number of solutions to the equation $\sin 2\theta + \cos 3\theta = 0,\ 0 \le \theta \le 2\pi$ is .

10) In the identity $\cot\theta\cos\theta + \dfrac{1}{\csc\theta} = \dfrac{1}{x}$, the value of x is

(A) $\cos\theta$

(B) $\sin\theta$

(C) $\cot\theta$

(D) $\tan\theta$

Assignment #106499

Solution - Mathematics 12 (Advanced Functions) Test

Name: _____

Date: _____

Question	Answer
1	D
2	C
3	B
4	C
5	D
6	B
7	5
8	C
9	6
10	B