Calculus Homework Assigment 1

Class 班: _____

Student Number 學號: _____

Name 姓名: _____

1. Find the domain of $y = \dfrac{x+3}{4-\sqrt{x^2-9}}$. [§1.1 #21]

2. Say whether the function is even, odd, or neither. Give reasons for your answer.
a. $\sin 2x$
b. $\cos 3x$ [§1.1 #59,61]

3. $f(x) = \sqrt{x+1}, \quad g(x) = \dfrac{1}{x}$
a. Write formulas for $f \circ g$ and $g \circ f$.
b. Find the domains and ranges of $f \circ g$ and $g \circ f$.
[§1.2 #17]

4. Let $f(x) = \dfrac{x}{x-2}$. Find a function $y = g(x)$ so that $f \circ g(x) = x$. [§1.2 #19]

(Turn over please 請翻頁)

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5. Solve for the angle θ, where $0 \leq \theta \leq 2\pi$.

$$\sin^2\theta = \frac{3}{4}$$

[§1.3 #51]

6. Solve for the angle θ, where $0 \leq \theta \leq 2\pi$.

$$\sin 2\theta - \cos\theta = 0$$

[§1.3 #53]

7. Find (a) the slope of the curve at the given point P, and (b)an equation of the tangent line at P.

$$y = x^2 - 2x - 3, \quad P(2, -3)$$

[§2.1 #11]

8. Find (a) the slope of the curve at the given point P, and (b)an equation of the tangent line at P.

$$y = \sqrt{x}, \quad P(4, 2)$$

[§2.1 #17]

(The end 結束)