**Math 51 (9:30am – 10:20am)**
**Quiz 4**
**Fri May 8, 2009**

GREEN

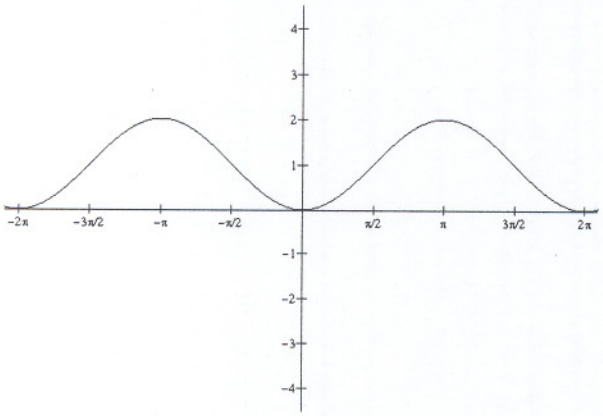
**SCORE: ___ / 20 POINTS**

What month is your birthday ? ___ ___
What are the first 2 digits of your address ? ___ ___
What are the last 2 digits of your zip code ? ___ ___
What are the last 2 digits of your social security number ? ___ ___
**[IF YOU DO NOT HAVE A SOCIAL SECURITY NUMBER, USE YOUR STUDENT ID NUMBER]**

# NO CALCULATORS ALLOWED

**MULTIPLE CHOICE:** What is the equation of the graph below ?

**SCORE: ___ / 2 POINTS**

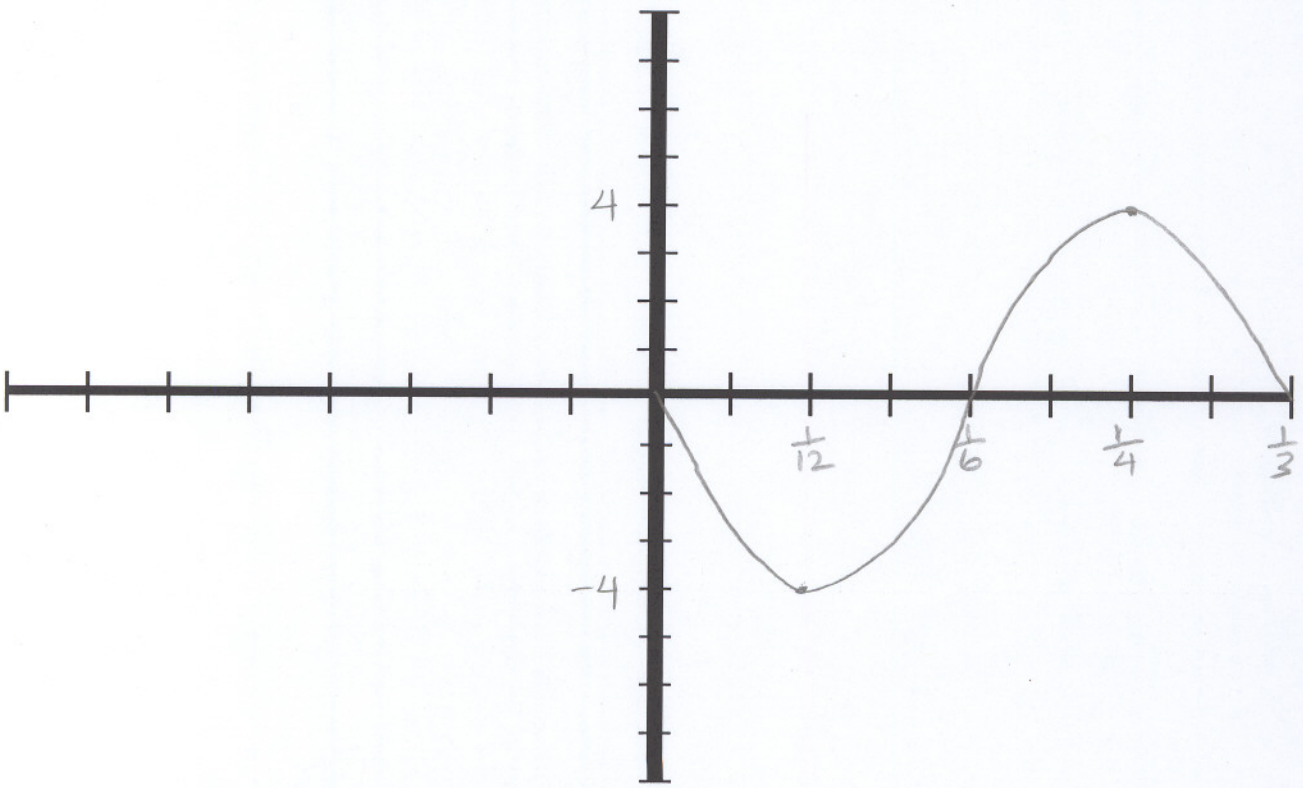



[A] $y = 1 - \cos x$ [B] $y = -1 - \cos x$ [C] $y = -1 + \sin x$ [D] $y = 1 + \sin x$

**LETTER OF CORRECT ANSWER:** A

Graph **one period** of the function $y = -4\sin 6\pi x$.
Label the relevant values on the $x$– and $y$–axes as shown in class.

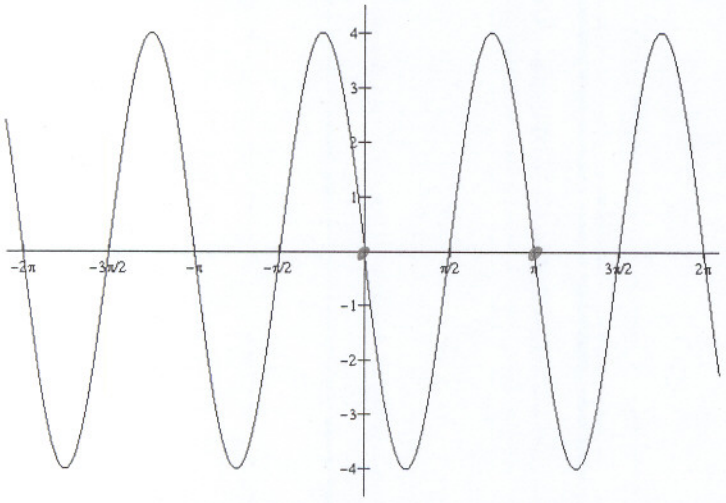
**SCORE: ___ / 6 POINTS**




AMPLITUDE = 4
PERIOD = $\frac{2\pi}{6\pi} = \frac{1}{3}$
$\frac{1}{4}$ PERIOD = $\frac{1}{12}$

Find an equation of the graph below. (The equation has the form either $y = a\sin bx$ or $y = a\cos bx$.) **SCORE: ___ / 4 POINTS**

**Show how you got your answer.**




AMPLITUDE = 4 = |a|

a = ±4

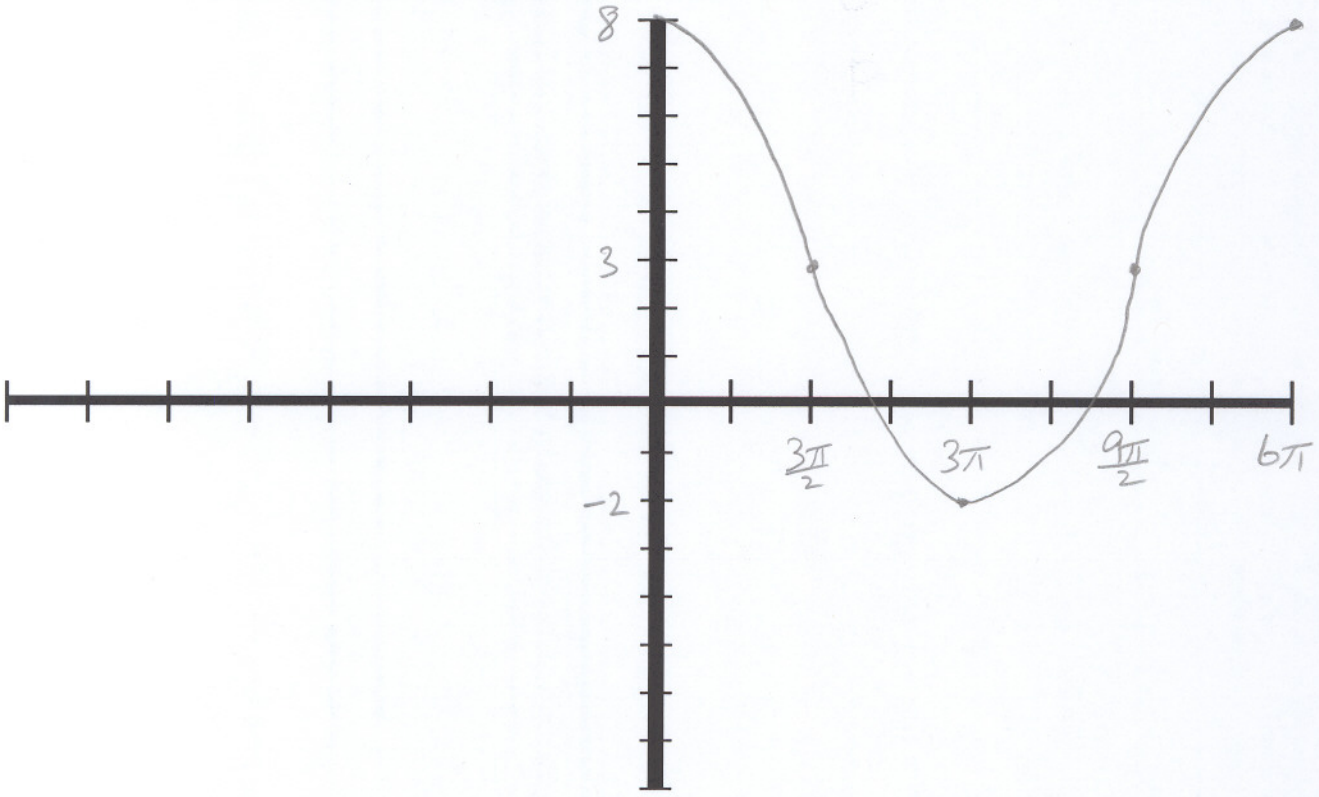
UPSIDE DOWN sin ⇒ a = −4

PERIOD = $\pi = \frac{2\pi}{b}$ ⇒ b = 2

$y = -4\sin 2x$

Graph **one period** of the function $y = 3 + 5\cos\frac{1}{3}x$. **SCORE: ___ / 8 POINTS**

Label the relevant values on the $x$– and $y$–axes as shown in class.




AMPLITUDE = 5

PERIOD = $\frac{2\pi}{1/3} = 6\pi$

$\frac{1}{4}$ PERIOD = $\frac{3\pi}{2}$

MIDLINE y = 3

MAX y = 3 + 5 = 8

MIN y = 3 − 5 = −2