

Solutions to POW due 2/3/10

Solve each of the following for $0 \leq x < 2\pi$:

1. $\sin x = \frac{\sqrt{3}}{2}$
 $x = \frac{\pi}{3}, \frac{2\pi}{3}$

2. $\cos x = -\frac{1}{2}$
 $x = \frac{2\pi}{3}, \frac{4\pi}{3}$

3. $\tan x = \frac{\sqrt{3}}{3}$
 $x = \frac{\pi}{6}, \frac{7\pi}{6}$

4. $\sec x = -\sqrt{2}$
 $x = \frac{3\pi}{4}, \frac{5\pi}{4}$

5. $\csc x = 1$
 $x = \frac{\pi}{2}$

6. $\cot x = -1$
 $x = \frac{3\pi}{4}, \frac{7\pi}{4}$

7. $\sin x = \frac{-\sqrt{3}}{2}$
 $x = \frac{4\pi}{3}, \frac{5\pi}{3}$

8. $\cos x = -1$
 $x = \pi$

9. $\cos x = \frac{-\sqrt{2}}{2}$
 $x = \frac{3\pi}{4}, \frac{5\pi}{4}$

10. $\tan x = \frac{-\sqrt{3}}{3}$
 $x = \frac{5\pi}{6}, \frac{11\pi}{6}$

POW due 2/10/10

As we get closer and closer to calculus and trigonometry, this week is a review of some of the calculus we did during the first semester.

1. (1 pt) If $f(x) = (3x - 2)^4$, find $f'(x)$.

2. (2 pts) Find the equation of the line tangent to $f(x) = 2x^3 - x^2 + 1$ at $x = 2$. Write your answer in point-slope form.

3. (2 pts) $\int (3x^2 + 6x + 4) dx =$

4. (1 pt) $\int_{-2}^1 (2x - 3) dx =$

5. (1 pt) If $f(x) = \frac{2x - 3}{3x + 2}$, find $f'(x)$.

6. (2 pts) $\int (6x - 2)^5 dx$

7. (1 pt) If $f(x) = (2x^2 - 3x + 1)(x^2 - 7x + 5)$, find $f'(x)$. You need not simplify your answer.