Name: Richard.

MATH 200 – QUIZ 1

January 18, 2013

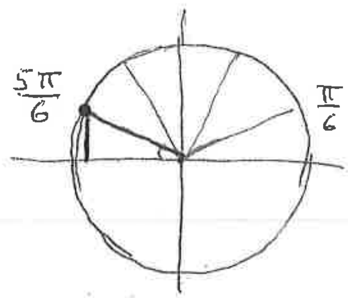
1. Find the domain of the function $f(x) = \frac{\sqrt{x+3}}{x}$.

Required: $x \neq 0$ and $x + 3 \geq 0$

i.e. $x \geq -3$

$\boxed{\text{Domain } [-3, 0) \cup (0, \infty)}$


2. $\sin\left(\frac{5\pi}{6}\right) = \boxed{\frac{1}{2}}$




3. Convert 10 degrees to radians.

$$\frac{10}{180} = \frac{\text{rad}}{\pi} \rightsquigarrow \text{rad} = \frac{10}{180}\pi = \boxed{\frac{\pi}{18} \text{ radians}}$$

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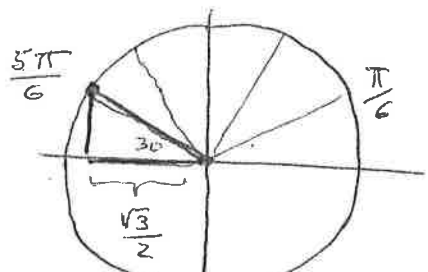
MATH 200 – QUIZ 1

January 18, 2013

1. Find the domain of the function $f(x) = \frac{x^2+1}{x^2-1}$. $= \frac{x^2+1}{(x+1)(x-1)}$ Can't have $x = 1, -1$.

$\boxed{\text{Domain: } (-\infty, -1) \cup (-1, 1) \cup (1, \infty)}$

2. $\cos\left(\frac{5\pi}{6}\right) = \boxed{-\frac{\sqrt{3}}{2}}$




3. Convert 18 degrees to radians.

$$\frac{18}{180} = \frac{\text{rad}}{\pi} \rightsquigarrow \text{rad} = \frac{18}{180}\pi = \boxed{\frac{\pi}{10} \text{ radians}}$$

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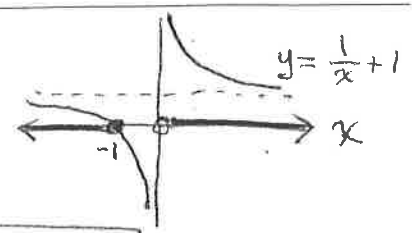
MATH 200 – QUIZ 1

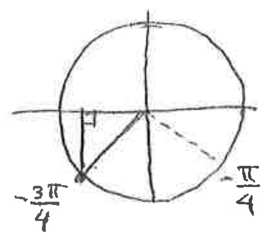
January 18, 2013

1. Find the domain of the function $f(x) = \sqrt{\frac{1}{x} + 1}$. Need $\frac{1}{x} + 1 \geq 0$




From the graph of $y = \frac{1}{x} + 1$, we see $\frac{1}{x} + 1 \geq 0$ for $x \leq -1$ and $x > 0$. Therefore domain of $f(x)$ is $\boxed{(-\infty, -1] \cup (0, \infty)}$

2. $\cos\left(-\frac{3\pi}{4}\right) = \boxed{-\frac{\sqrt{2}}{2}}$




3. Convert 36 degrees to radians. $\frac{36}{180} = \frac{rad}{\pi} \rightsquigarrow rad = \frac{36}{180}\pi = \frac{18 \cdot 2}{180}\pi = \frac{2}{10}\pi$

$= \boxed{\frac{\pi}{5} \text{ radians}}$

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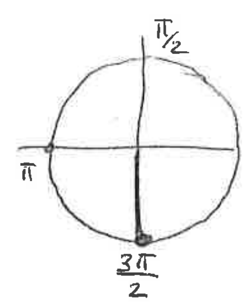
MATH 200 – QUIZ 1

January 18, 2013

1. Find the domain of the function $f(x) = \frac{x}{\sqrt{x+3}}$.

Must have $x + 3 > 0$, i.e. $-3 < x$. Domain: $(-3, \infty)$

2. $\sin\left(\frac{3\pi}{2}\right) = \boxed{-1}$




3. Convert 9 degrees to radians. $\frac{9}{180} = \frac{rad}{\pi} \rightsquigarrow rad = \frac{9}{180}\pi = \boxed{\frac{\pi}{20} \text{ radians}}$