

BC Calculus

Quick Quiz Pg 29

① $m = -2$ Point $(3, -1)$

$$y + 1 = -2(x - 3)$$

$$y = -2x + 5$$

③ $1 = 5\left(\frac{1}{2}\right)^{t/8}$

$$t \approx 18.575$$

44 Pg 55

① $f(x) = -\log_2(x+3)$

$$x+3 > 0$$

$$x > -3$$

$$(-3, \infty)$$

② $f(x) = 5 \cos(x + \pi) + 3$

$$[-2, 8]$$

③ $\tan x = -1$

$$x = \frac{5\pi}{4}$$

④ $f(x) = 5x - 3$

a) $y = 5x - 3, x = \frac{y+3}{5}$

$$y = \frac{x+3}{5} = g(x)$$

b) $f(g(x)) = 5\left(\frac{x+3}{5}\right) - 3$

$$= x + 3 - 3 = x$$

c) $g(f(x)) = \frac{5x-3+3}{5}$

$$= \frac{5x}{5} = x$$

Bc Calculus

Pg 57 # 68-70

68) $P(-2, 1)$ $L: x + y = 2$
 $y = -x + 2$

a) $m = -1$

b) $y - 1 = -(x + 2)$

$y = -x - 1$

c) $m = 1$, $y - 1 = x + 2$

$y = x + 3$

d) $x + 0 = 2$

$x = 2$

69) $f(x) = 1 - \ln(x - 2)$

a) $x - 2 > 0$

$x > 2$

$(2, \infty)$

b) $(-\infty, \infty)$

c) off calculator

$x \approx 4.718$

$0 = 1 - \ln(x - 2)$

$\ln(x - 2) = 1$

$x - 2 = e$

$x = 2 + e$

70) $f(x) = 1 - 3 \cos(2x)$

a) $(-\infty, \infty)$ b) $[-2, 4]$

c) Period = $\frac{2\pi}{2} = \pi$

d) even ($f(x) = f(-x)$)

e) $x \approx 2.526$

c) $y = 1 - \ln(x - 2)$

$x = 1 - \ln(y - 2)$

$\ln(y - 2) = 1 - x$

$y - 2 = e^{1-x}$

$y = e^{1-x} + 2$