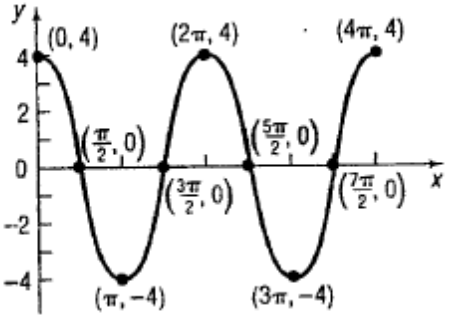
2.1 Functions – Stretching your Understanding…

1) Obtaining Information from the Graph of a Function



Let f be the function whose graph is above. What are

$f(0)$, $f\left(\frac{3\pi}{2}\right)$, *and* $f(3\pi)$? 4,0,-4

a) What is the domain of f? Use interval notation.
[0,4π]

b) What is the range of f? [-4,4]

c) List the intercepts. $\left(\frac{\pi}{2},0\right)\left(\frac{3\pi}{2},0\right)\left(\frac{5\pi}{2},0\right)\left(\frac{7\pi}{2},0\right),(0,4)$

d) How often does the line y=2 intersect the graph? 4 times

e) For what values of x does f(x) = -4? π,3π

f) For what values of x is $f(x) > 0$? $[0,\frac{\pi}{2}) \cup (\frac{3\pi}{2},\frac{5\pi}{2}) \cup (\frac{7\pi}{2},4\pi]$

2) Consider the function: $f(x) = \frac{x}{x+2}$

a) Is the point $\left(1,\frac{1}{2}\right)$ on the graph of f?No

b) If x = -1, what is f(x)? What point is on the graph of f?
f(x)=-1 (-1,-1)

c) If f(x) = 2, what is x? What point is on the graph of f?
(-4,2)

4) If $f(x) = 3x^2 - 5x + C$ and f(-1) = 12, what is the value of C?
C=4

5) If $f(x) = \frac{2x - B}{3x + 4}$ *and* $f(2) = \frac{1}{2}$, what is the value of B?
B = -1