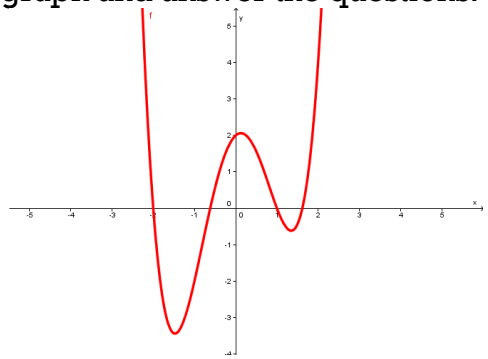
Describing Functions Homework Assignment

1. Examine the following graph and answer the questions.



a) To answer questions about the domain, look across the ___ axis.
To answer questions about the range, look at the ____ values.

b) Domain: _____
Range: _____
c) Define the domain for which f(x) > 0. _____
d) Define the domain for which f(x) < 0. _____

e) Over what domain is the function increasing? _____
f) Over what domain is the function decreasing? _____

2. Sketch a function that is constant.

3. Sketch a function that satisfies the parameters.

For -2<x<0, f is increasing.
For 0<x<5, f is decreasing.
For x >5, f is constant.

domain: {_____}
range: {_____}
maximum value for f: _____
minimum value for f: _____

4. Composite functions

a) Ronnie has a gift card to Outback Steak House for $25. He goes to Outback on Saturday night. The sales tax must be calculated on the original bill; the sales tax rate is 7.5%.
f: bill after taxes
g: bill after the gift card

f(x) = _____ ; g(x) = _____

Write a composite function to show what Ronnie owes after tax is added and the gift card is subtracted.(Should you write f(g(x)) or g(f(x))?)

How much would Ronnie pay if his tab was $53 before taxes and the gift card?

b) You have two money machines. One machine doubles your money; the other machine, adds $10. The machines can be hooked up so that the money coming out of one machine feeds into the other machine. Which order would you prefer the composition? Justify your answer.

c) a) A clothing store offers a 10% discount sale on its bluejeans. Lulu has a $10 off coupon for any item in the store. How much would Lulu pay?

f(x) = _____
g(x) = _____
f(g(x) = _____

Use the composite function to determine the price of a pair of $60 bluejeans.