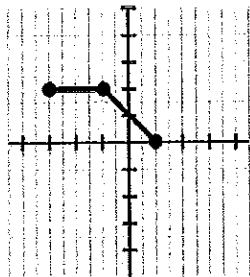
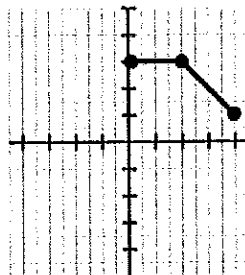


Questions 30, 31, 32, 33 and 34 involve Graphs 1 and 2 appearing directly below.

Graph 1: $f(x)$



Graph 2: $g(x)$



You're given the information that Graphs 1 and 2 are piecewise linear, and that Graph 2 is a transformation of Graph 1 using horizontal and vertical translations. Each numbered and lettered part is worth 3 points. (So Question 33 is worth 12 points, 3 points per part.)

30. On the interval $-3 \leq x \leq -1$, what is a formula for $f(x)$?

31. On the interval $-1 \leq x \leq 1$, what is a formula for $f(x)$?

32a and 32b. Use your answers to #30 and #31 to fill in the blanks.

$$f(x) = \begin{cases} \text{a) } \underline{\hspace{2cm}}, & -3 \leq x < -1 \\ \text{b) } \underline{\hspace{2cm}}, & -1 \leq x \leq 1 \end{cases}$$

33a, 33b, 33c, and 33d.

Choose the correct alternative and fill in the blanks.

The graph of $g(x)$ is obtained from the graph of $f(x)$ by shifting the graph of $f(x)$

a) LEFT or RIGHT (choose one)

by

b) units,

and then

c) UP or DOWN (choose one)

by

d) units.

34. Which of the following is correct?

a) $g(x) = f(x-3) + 1$

c) $g(x) = f(x-3) - 1$

b) $g(x) = f(x+3) + 1$

d) $g(x) = f(x+3) - 1$

LONG ANSWER SECTION. Solve the problems. You must show all work in order to receive any credit.

35. Determine an equation of the line, in slope-intercept form, which contains the points $(-3,6)$ and $(5,-14)$. (10 pts)
36. Find an equation of the circle whose endpoints of a diameter are $(-3,6)$ and $(5,-14)$. (10 pts)
37. If $f(x) = x + 2$ and $g(x) = -x^2 + 2x - 3$, determine a formula for $(g \circ f)(x)$. (10 pts)
38. A salesperson earns a base salary of \$3,200 per month and a commission of 5% on the amount of sales made. If the person has a paycheck of \$5,700.00 for one month, what was the amount of sales for the month? (8 pts)