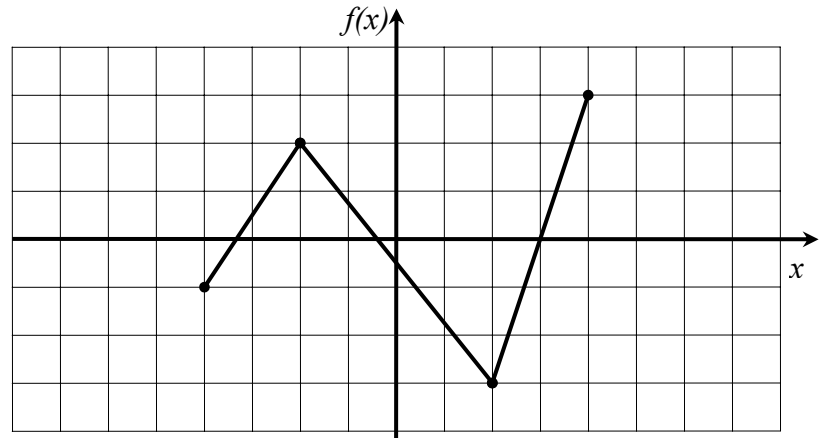


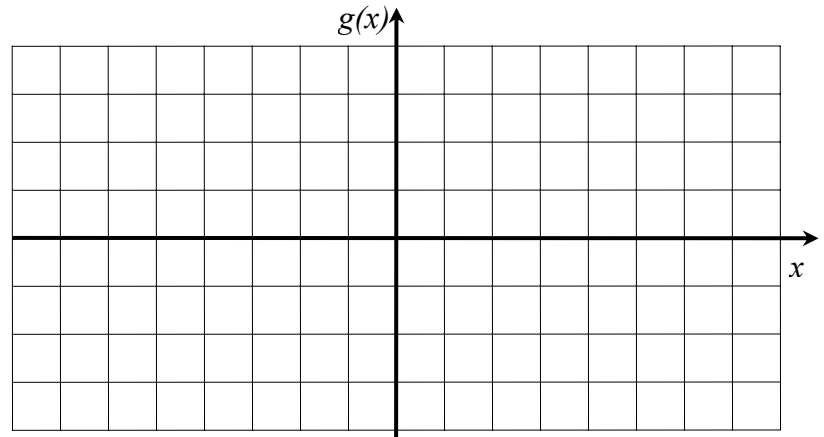
Q4: $\frac{\quad}{20}$ Attendance: $\frac{\quad}{16}$ Quizzes: $\frac{\quad}{80}$ Course: $\frac{\quad}{96}$ Course Percentage: $\quad\%$ Course Grade:

1 The graph of a function $f(x)$ is shown at right.

(a) On the graph of $f(x)$, label the four important points with their coordinates.



(b) Let $g(x) = f(2x)$. Sketch the graph of $g(x)$ on the axes at right. On your graph of $g(x)$, make sure that you also label the four new important points with their coordinates.



2 Given $f(x) = \sqrt{x-9}$ and $g(x) = x^2$.

(a) What is $(f \circ g)(5)$? Show your work. (Use a machine diagram, if you can, to illustrate.)

(b) Something goes wrong if you try to compute $(g \circ f)(5)$. Explain what goes wrong. (Use a machine diagram, if you can, to illustrate.)



(c) Find $(f \circ g)(x)$, and give its domain.

(d) Find $(g \circ f)(x)$, and give its domain.

(e) Find $(f \cdot g)(x)$, and give its domain.

3] Let $f(x) = 2 - x^3$.

(a) Make a quick graph of f by using transformations. (You should make three graphs.)

(b) On a separate set of axes, make a quick graph of f^{-1} by transforming the graph of f . (You only need to make one graph.)

(c) Find the function $f^{-1}(y)$ by using algebra (not the graphs).

