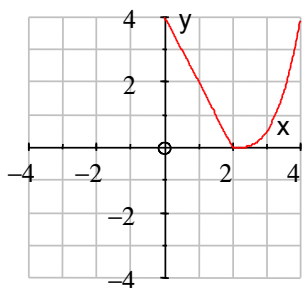


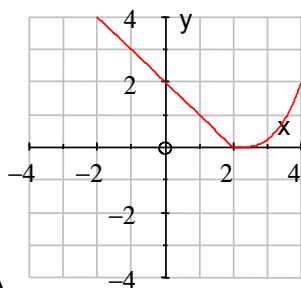
Sketching Graphs

1) The first graph shown below is the graph of $y = f(x)$. The other 7 graphs are transformations of this. Match each with the correct equation from the following list:

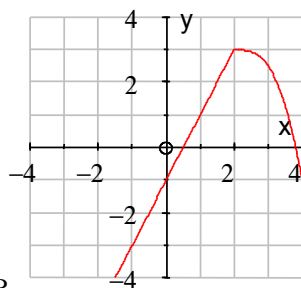
- (i) $y = f(x + 3)$ (ii) $y = f(x) - 3$ (iii) $y = -f(x)$ (iv) $y = 3 - f(x)$ (v) $y = f(-x)$ (vi) $y = \frac{1}{2}f(x)$ (vii) $y = f(2x)$



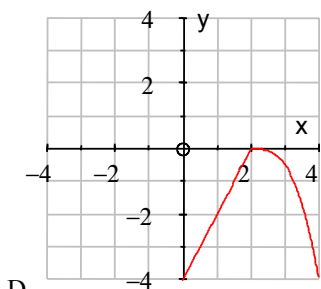
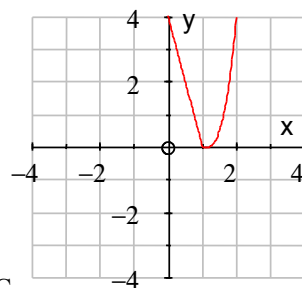
A



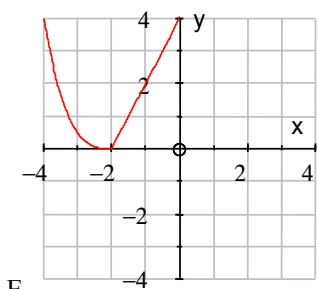
B



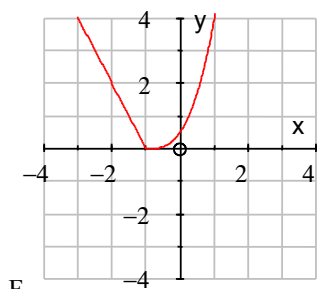
C



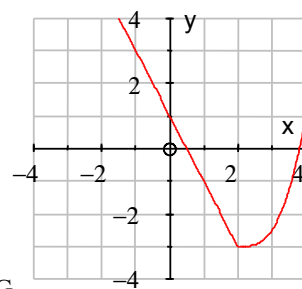
D



E



F



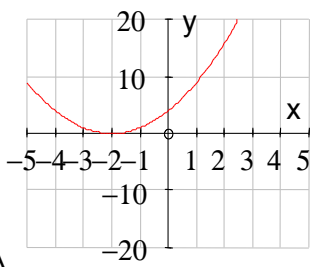
G

2) Using the same graph for $y = f(x)$ as in question 1, sketch each of the following, indicating the coordinates of any significant points:

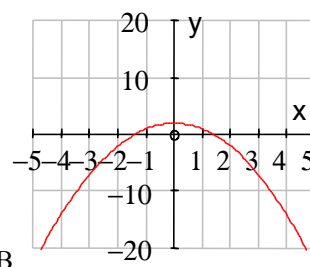
- (a) $y = f(x - 2)$ (b) $y = f(x) - 2$ (c) $y = 2f(x)$ (d) $y = f(x)$ (e) $y = f(x + 3) + 2$

3) Below are 8 graphs labelled A to H. These are graphs of the eight equations shown below. Match each graph with the correct equation.

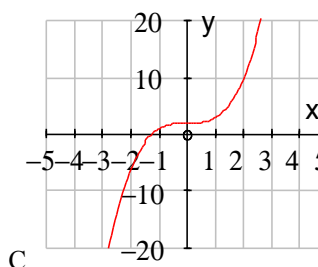
- (i) $y = (x - 2)(x + 3)$ (ii) $y = 3 - x^2$ (iii) $y = x^3 + 3$ (iv) $y = 3x - x^2$
 (v) $y = (x + 2)^2$ (vi) $y = \frac{6}{x}$ (vii) $y = (x + 2)(x - 1)(x - 3)$ (viii) $y = (x - 2)^2 + 3$



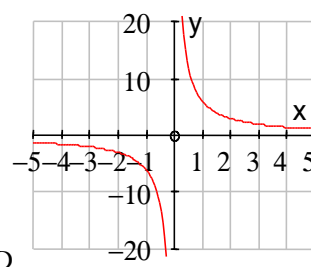
A



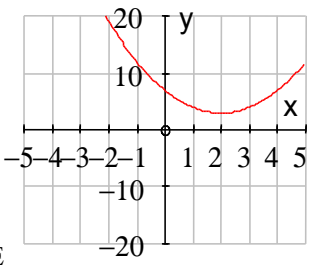
B



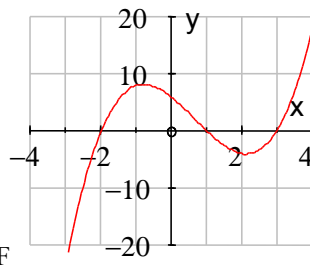
C



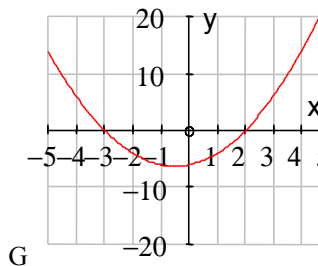
D



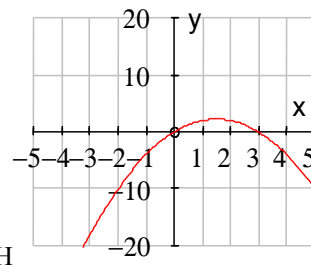
E



F



G



H

4) Sketch the graph of each of the following equations:

- (a) $y = (x - 4)(x + 3)$ (b) $y = 5 - x^3$ (c) $y = (x + 3)^2 + 2$ (d) $y = -\frac{12}{x}$ (e) $y = x(4 - x)$
 (f) $y = \frac{12}{x + 2}$ (g) $y = 9 - x^2$ (h) $y = +2$ (i) $y = x^2 + x - 6$ (j) $y = (x + 2)(x - 3)(x - 5)$