

Section 2: Maximum and minimum points

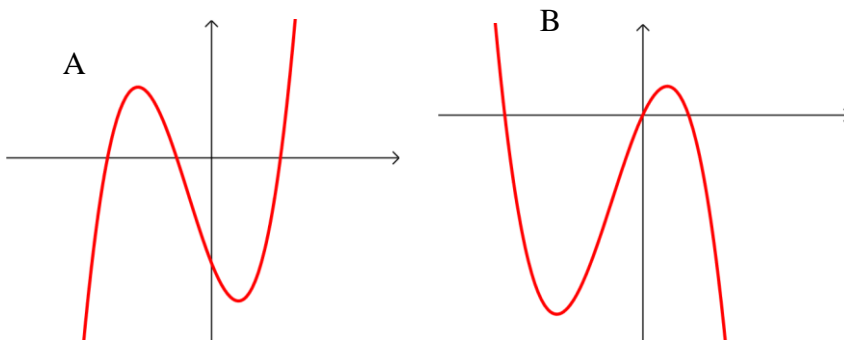
Section test

- At which of the following values of x is $f(x) = 3 - x - 2x^2$ decreasing?
Choose all that apply.

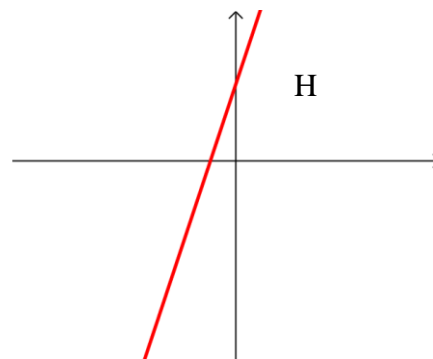
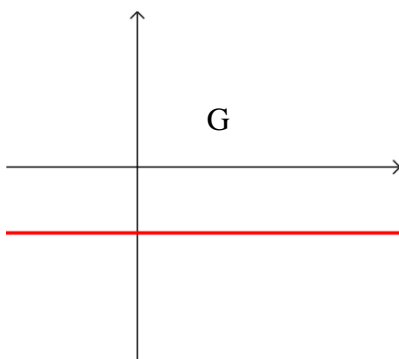
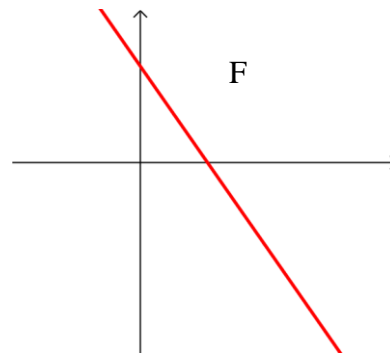
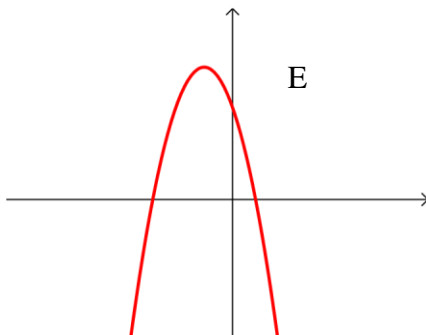
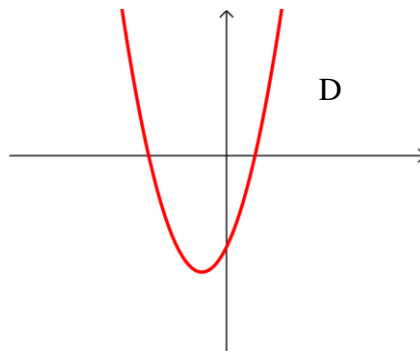
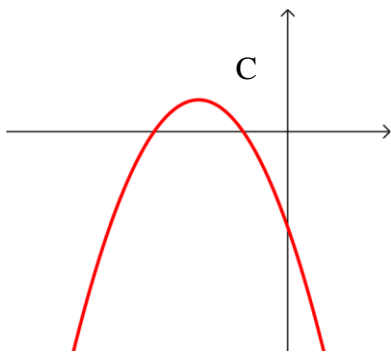
(a) $x = -1$	(b) $x = 0$
(c) $x = 1$	(d) $x = 2$
- For what values of x is $f(x) = x^3 - 6x^2 + 9x + 4$ an increasing function?

(a) $x < 1$ and $x > 3$	(b) $1 < x < 3$
(c) $x < -3$ and $x > -1$	(d) $-3 < x < -1$
- A curve has equation $y = 2x^3 + 3x^2 - 12x - 10$.
Find the coordinates of the local minimum point, and the coordinates of the local maximum point.
- What are the turning point(s) of the curve $y = 3x - x^3$? Choose as many as apply.

(a) (1, 2) minimum	(b) (1, 2) maximum
(c) (-1, -2) minimum	(d) (-1, -2) maximum
- The current I amperes in an electrical circuit after t seconds can be modelled by $I = t^3 - 6t^2 + 9t$, for $0 \leq t \leq 3$. What is the largest value of I in the period $0 \leq t \leq 3$?
- The following questions are about the graphs A – H shown below. The graphs are not necessarily to the same scale.



Edexcel AS Maths Differentiation 2 section test



- (i) Which graph shows the gradient function of the curve shown in graph A?
- (ii) Which graph shows the gradient function of the curve shown in graph B?
- (iii) Which graph shows the gradient function of the curve shown in graph D?
- (iv) There is one other graph which is the gradient function of another of the graphs shown. Which graph is this? Which graph is it the gradient function for?