

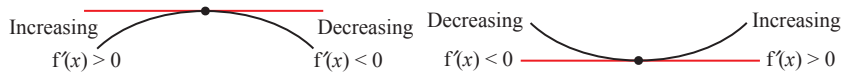
When a curve changes from an increasing function to a decreasing function or vice versa, it passes through a point where it is stationary. This is called a **turning point** or **stationary point**.

At a turning point, the gradient of the tangent is zero. Therefore, you can work out the coordinates of the turning point by equating the derivative to zero.

**Key point**

A turning point is a stationary point, but a stationary point is not necessarily a turning point. You will learn about other types of stationary point in **Section 15.1**

Here are examples of a **maximum** turning point and a **minimum** turning point.



At a maximum turning point, as  $x$  increases, the gradient changes from positive through zero to negative.

At a minimum turning point, as  $x$  increases, the gradient changes from negative through zero to positive.