

LITERACY

Differentiate, Derivative,
Maximum, Minimum,
Turning Point, Stationary,
Tangent, Normal

RESEARCH

Find some real life
applications of calculus.
There are lots.... 😊

MEMORY

Can you write down the
general rule for
differentiation?

SKILL PRACTICE

- 1) Differentiate each of the following
 - a. $y = 6x^2$
 - b. $y = 9x^4$
 - c. $y = -3x^{-2}$
 - d. $y = 2x^4 - 3x^5$
- 2) Calculate the gradient of the curve
at the point where $x = 8$.
- 3) A curve has equation $y = x^4 - 32x + 7$
 - (a) Find $\frac{dy}{dx}$.
 - (b) Find the x -coordinate of the stationary point of the curve.
 - (c) State, with a reason, whether the stationary point is a maximum or minimum point.

STRETCH

A function is defined by

$$y = ax^2 + 7x + b,$$

where a and b are constants.

The graph of f has a gradient of
5 at $x = -1$.

When $x = 2$, y has a value of 8.

Find the values of a and b .