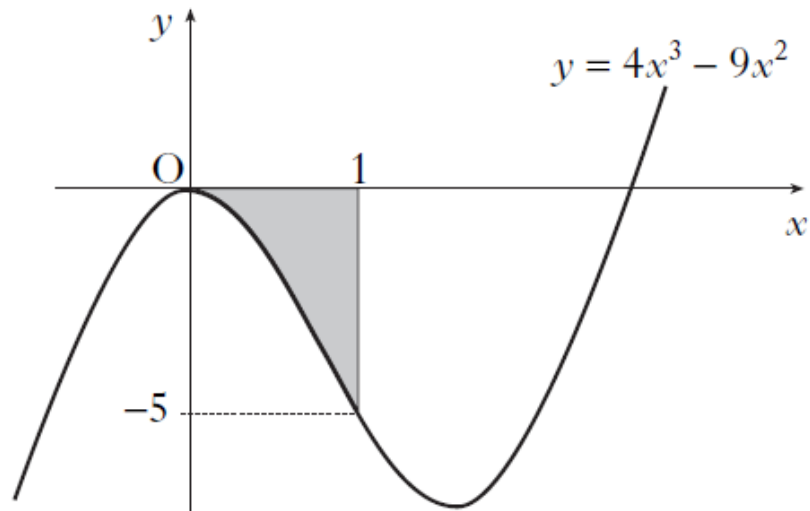


The graph of $y = 4x^3 - 9x^2$ is shown in the diagram.

Which of the following gives the area of the shaded section?



A $\left[x^4 - 3x^3 \right]_{-5}^0$

B $-\left[x^4 - 3x^3 \right]_0^1$

C $\left[12x^2 - 18x \right]_{-5}^0$

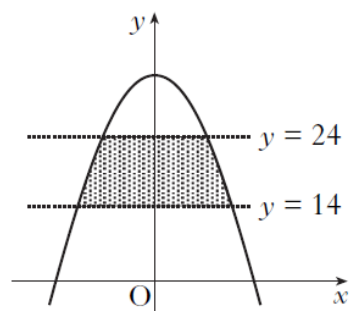
D $-\left[12x^2 - 18x \right]_0^1$

The parabola shown in the diagram has equation

$$y = 32 - 2x^2.$$

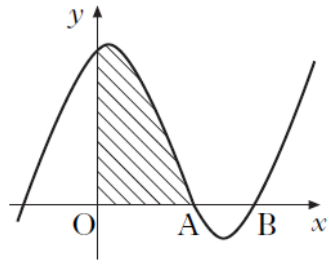
The shaded area lies between the lines $y = 14$ and $y = 24$.

Calculate the shaded area.



The diagram shows a sketch of the graph of $y = x^3 - 4x^2 + x + 6$.

- (a) Show that the graph cuts the x -axis at $(3, 0)$.
- (b) Hence or otherwise find the coordinates of A.
- (c) Find the shaded area.



1
3
5