## Given a gradient graph, find the equation of the function.

1. The minimum value of $y$ is 3 and the graph of the gradient $\frac{d y}{d x}$ is given below. Find the equation of the graph and draw it on the axes below.



Working
Min point is ( , )
Equ of the gradient is $\underline{d y}=$ $d x$
Antidiff to find equ for $y$ :
$y=$
2. The minimum value of $f(x)$ is 1 .

The gradient function $f^{\prime}(x)$ is drawn below.
Find the equation of $y=f(x)$ and draw the graph showing the $y$ intercept.



## Working

Min point is ( , )

Equ of the gradient is $f^{\prime}(x)=$

Antidiff to find equ for $f(x)$
$f(x)=$
3. The maximum value of $g(x)=5$.

The gradient function $g^{\prime}(x)$ is drawn below.
Find the equation of $y=g(x)$ and draw the graph showing the $y$ intercept.



## Working

MAX point is ( , )
Equ of the gradient is $g^{\prime}(x)=$ Antidiff to find equ for $g(x)$

$$
g(x)=
$$

4. The minimum value of $p(x)=1$. The gradient function $p^{\prime}(x)$ is drawn below.
Find the equation of $y=p(x)$ and draw the graph showing the $y$ intercept.


Working
Min point is ( , )
Equ of the gradient is $p^{\prime}(x)=$
Antidiff to find equ for $\boldsymbol{p}(\boldsymbol{x})$
$p(x)=$

