The following table gives the values of a differentiable function *f*, and its derivative f' at given values of *x*.

x	f	f'
1	2	$\frac{1}{2}$
2	3	1
3	4	2
4	6	4

If $g(x)$ is the inverse function of $f(x)$, then what is the value of $g'(4)$?

(a) $\frac{1}{6}$	(b) $\frac{1}{4}$	(c) $\frac{1}{3}$	(d) $\frac{1}{2}$	(e) 2

If $f(x) = x^3 - 3x^2 + 8x + 5$ and $g(x) = f^{-1}(x)$, then $g'(5) =$

(a) 8	(b) $\frac{1}{8}$	(c) 1	(d) $\frac{1}{53}$	(e) 5

The following table gives the values of a differentiable function *f*, and its derivative f' at given values of *x*.

x	f	f'
1	2	$\frac{1}{2}$
2	3	1
3	4	$\boxed{2}$
4	6	4

If $g(x)$ is the inverse function of $f(x)$, then what is the value of $g'(4)$?

$$\begin{aligned} g'(4) &= \left(f^{-1}\right)'(4) \\ &= \frac{1}{f'\left(\begin{array}{c}\text{whatever makes} \\ f(x)=4\end{array}\right)} \\ &= \frac{1}{f'(3)} \\ &= \frac{1}{\boxed{2}} \end{aligned}$$

$f(x)=4$ when $x=3$

(a) $\frac{1}{6}$	(b) $\frac{1}{4}$	(c) $\frac{1}{3}$	(d) $\frac{1}{2}$	(e) 2

If $f(x)=x^3-3x^2+8x+5$ and $g(x)=f^{-1}(x)$, then $g'(5)=$

$$g'(5)=\left(f^{-1}\right)'(5)$$
$$=\frac{1}{f'\left(\begin{array}{l}\text{whatever makes}\\ f(x)=5\end{array}\right)}$$

$$\begin{aligned}f(x)&=x^3-3x^2+8x+5\\ 5&=x^3-3x^2+8x+5\\ 0&=x^3-3x^2+8x\\ 0&=x\left(x^2-3x+8\right)\\ &\downarrow\\ x&=0\end{aligned}$$

$$\begin{aligned}f(x)&=x^3-3x^2+8x+5\\ f'(x)&=3x^2-6x+8\\ f'(0)&=8\end{aligned}$$

$$\begin{aligned}g'(5)&=\left(f^{-1}\right)'(5)\\ &=\frac{1}{f'\left(\begin{array}{l}\text{whatever makes}\\ f(x)=5\end{array}\right)}\\ &=\frac{1}{f'(0)}\\ &=\frac{1}{8}\end{aligned}$$

(a) 8	(b) $\frac{1}{8}$	(c) 1	(d) $\frac{1}{53}$	(e) 5