

Chapter 10 / Example 8

Finding a gradient

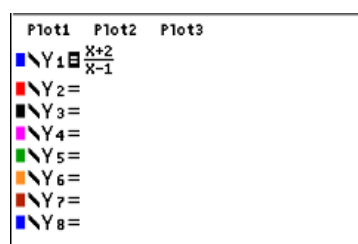
Consider $y = \frac{x+2}{x-1}, x \neq 1$

Find the gradient of the curve at the points where $x = 2$ and $x = 3$.

Press $[F1]$ $[Y=]$ to display the equation entry screen.

Type $\frac{x+2}{x-1}$ and press $[ENTER]$ to enter the equation as Y_1 .

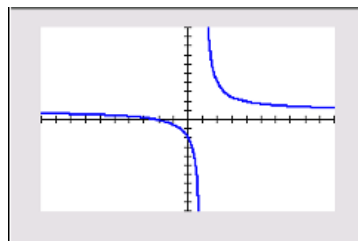
Use the fraction template: $[ALPHA]$ $[F1]$ 1:n/d.



Press $[F5]$ $[GRAPH]$ when you have finished.

The GDC displays the graph Y_1 .

The default axes are $-10 \leq x \leq 10$ and $-10 \leq y \leq 10$.



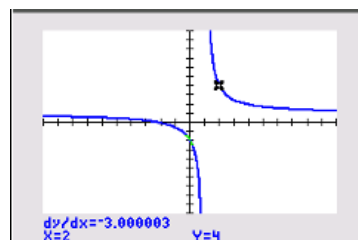
To find the gradient at $x = 2$ press $[2nd]$ $[CALC]$ 6:dy/dx

Type 2, the value of the x-coordinate, and press $[ENTER]$.

The GDC displays a point on $y = \frac{x+2}{x-1}$ and the gradient of the curve at that point.

The gradient at the point where $x = 2$ is -3 .

-3.00003 is very close to -3 . The difference is due to the way in which this value is calculated. Ignore the slight difference.



To find the gradient at $x = 3$ press $[2nd]$ $[CALC]$ 6:dy/dx

Type 3, the value of the x-coordinate, and press $[ENTER]$.

The GDC displays a point on $y = \frac{x+2}{x-1}$ and the gradient of the curve at that point.

The gradient at the point where $x = 3$ is -0.75 .

-0.7500002 is very close to -0.75 . The difference is due to the way in which this value is calculated. Ignore the slight difference.

