

2-8 EXAMPLES

1. State the definition of the derivative of the function $f(x)$.

For all of the problems on this worksheet, you need to use the definition above. You should NOT use a short-cut rule we have not yet covered.

2. For each function (i) find $f'(x)$ using the definition, (ii) graph $f(x)$ and $f'(x)$ on the same axes, and (iii) state their domains.
 - (a) $f(x) = mx + b$ where m and b are fixed constants.

(b) $f(x) = \sqrt{x+1}$

(c) $f(x) = |x|$

3. For each function below, sketch its derivative on the same set of axes.

