

## Essential Skills 20

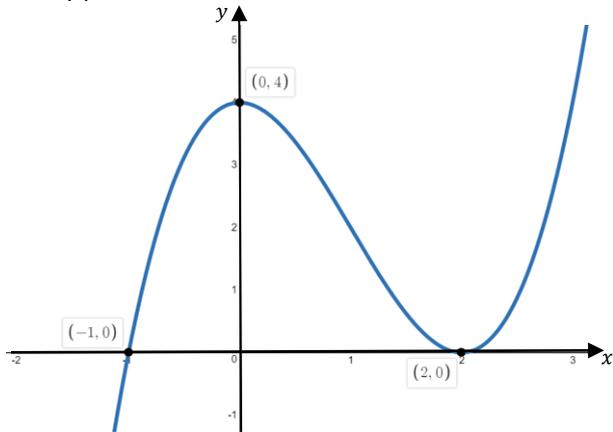
The skills in this series of worksheets appear frequently.

These are the GIFTS you must take to succeed.



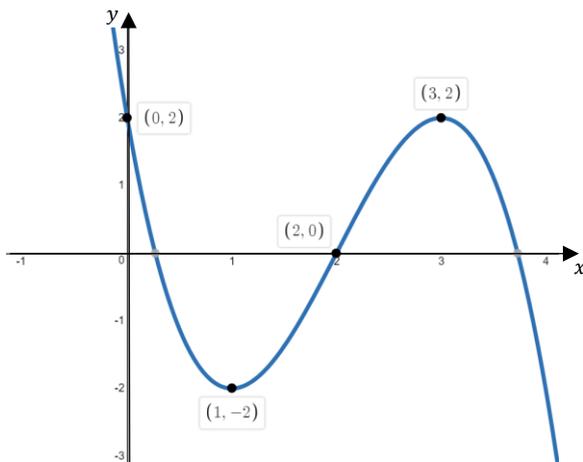
### Related Graphs (Non Calculator)

1. The diagram below shows the graph of  $y = f(x)$ . Sketch the graph of each the following on separate diagrams, indicating all key points:



- (a)  $y = f(x) - 4$
- (b)  $y = f(x - 2)$
- (c)  $y = f(-x)$
- (d)  $y = 3 - f(x)$
- (e)  $y = f(2x)$

2. The diagram below shows the graph of  $y = g(x)$ . Sketch the graph of each the following on separate diagrams, indicating all key points:



- (a)  $y = g(x + 3)$
- (b)  $y = g(x) + 3$
- (c)  $y = g(-x) - 1$
- (d)  $y = -2g(x)$
- (e)  $y = g\left(\frac{1}{3}x\right)$

### APPLYING QUESTION

The diagram below shows the graph of  $y = 3 - h(x + 1)$ . Sketch the graph of  $h(x)$ , indicating all key points.

