



# SPTA

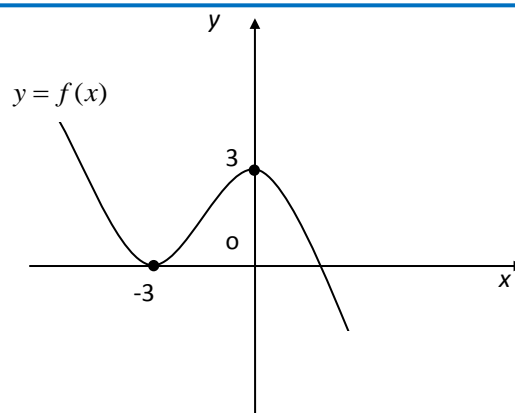
## Higher Homework

### Graphs (B)



1. The diagram shows part of the graph of a function with equation  $y = f(x)$

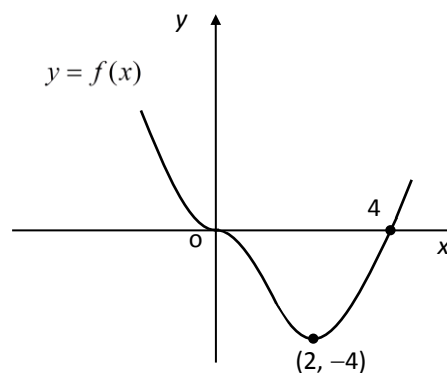
Sketch the graph of  $y = f(-x) - 1$



(3)

2. The diagram shows part of the graph of a function with equation  $y = f(x)$

Sketch the graph of  $y = -f(x + 4)$



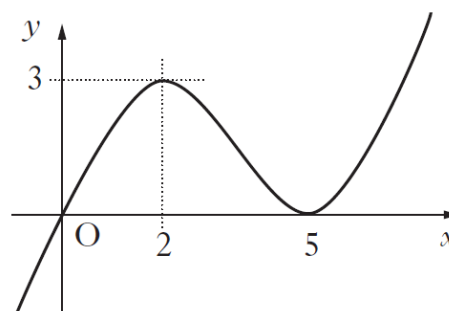
(3)

3. Sketch the graph of the function  $y = \log_5(x - 2)$

(2)

4. The diagram shows part of the graph of a function with equation  $y = f(x)$

Sketch the graph of  $y = 2f(x) + 1$



(3)

5.  $f(x) = 3 - x$  and  $g(x) = \frac{3}{x}, x \neq 0$

(a) Find  $p(x)$  where  $p(x) = f(g(x))$  (1)

(b) If  $q(x) = \frac{3}{3-x}, x \neq 3$ , find  $p(q(x))$  in its simplest form (3)

6. The point  $A$  has coordinates  $(7, 4)$ .

The straight lines with equations  $x + 3y + 1 = 0$  and  $2x + 5y = 0$  intersect at  $B$

(a) Find the gradient of  $AB$  (2)

(b) Hence show that  $AB$  is perpendicular to only one of these two lines (3)