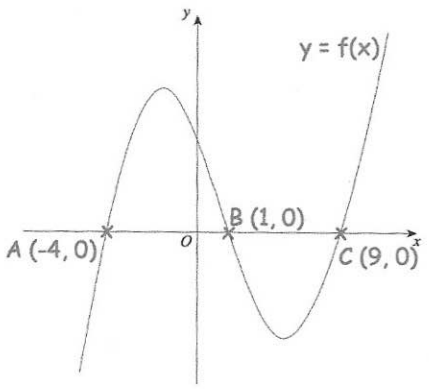
Name: _____ 5-a-day Higher Plus

3rd August

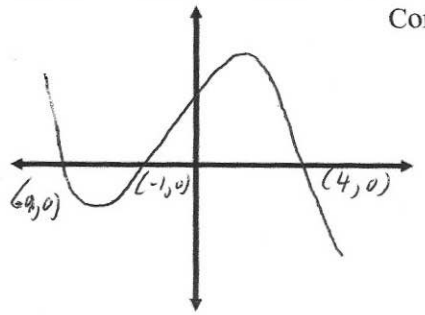
Corbettmaths

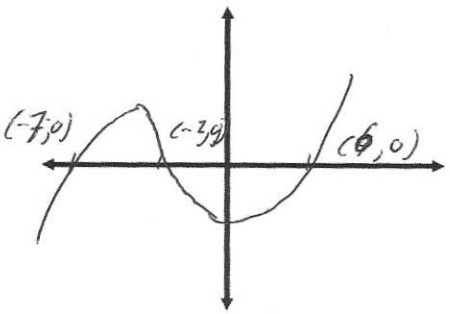
Shown is the graph y = f(x)



Sketch
(a) y = f(−x) (b) y = f(x + 3)

left



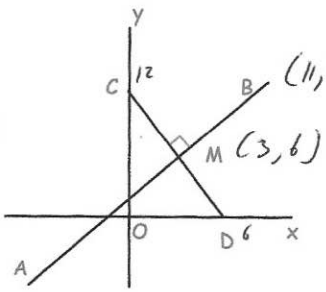


For all values of x

$f(x) = x^2 + 5$
$g(x) = x - 4$

$(x-4)^2+5 = x^2+5-4$
$x^2-8x+21 = x^2+1$
$-8x = -20$
$8x = 20$
$x = 2.5$

Solve
$fg(x) = gf(x)$



CD
$y = -2x + 12$

Find the equation of AB

$y = \frac{1}{2}x + c$
$6 = 1.5 + c$
$c = 4.5$
$y = \frac{1}{2}x + \frac{9}{2}$

Shown are the straight lines AB and CD.
M is the midpoint of CD
AB is perpendicular to CD and passes through the point M
C is the point (0, 12) and D is the point (6, 0)

B is the point (11, 10)
AM:MB = 5:2

M → B
8 right, 4 up

Find the coordinates of the point A

4 right, 2 up
10 left, 10 down from M

(−17, −4)