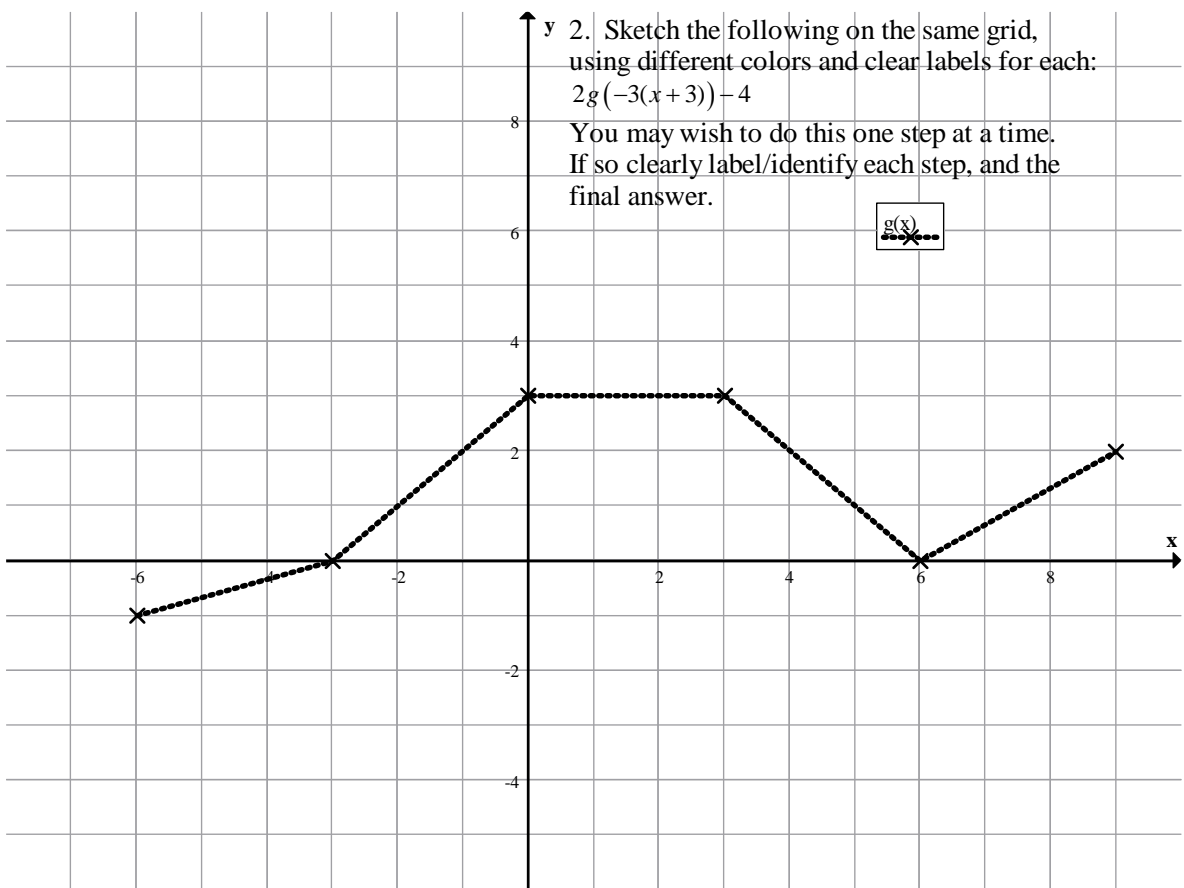
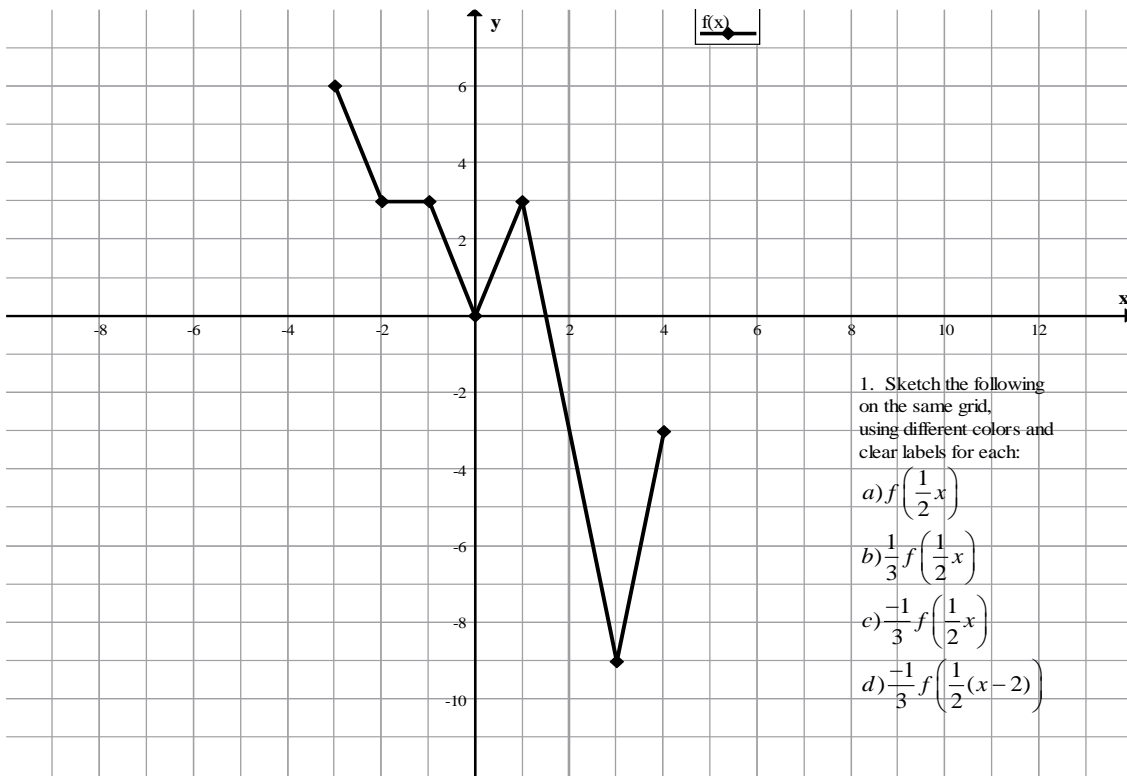


IB Math SL 1 Transformations – Combinations Worksheet Name _____



3. Below is pictured the graph of the parabola:

$$f(x) = x^2$$

Sketch the graph of the following parabolas on the same grid, writing the equation for each beside it, i.e. the equation for a) would be

$$f(x+3) = (x+3)^2$$

a) $f(2x)$

b) $-f(2x)$

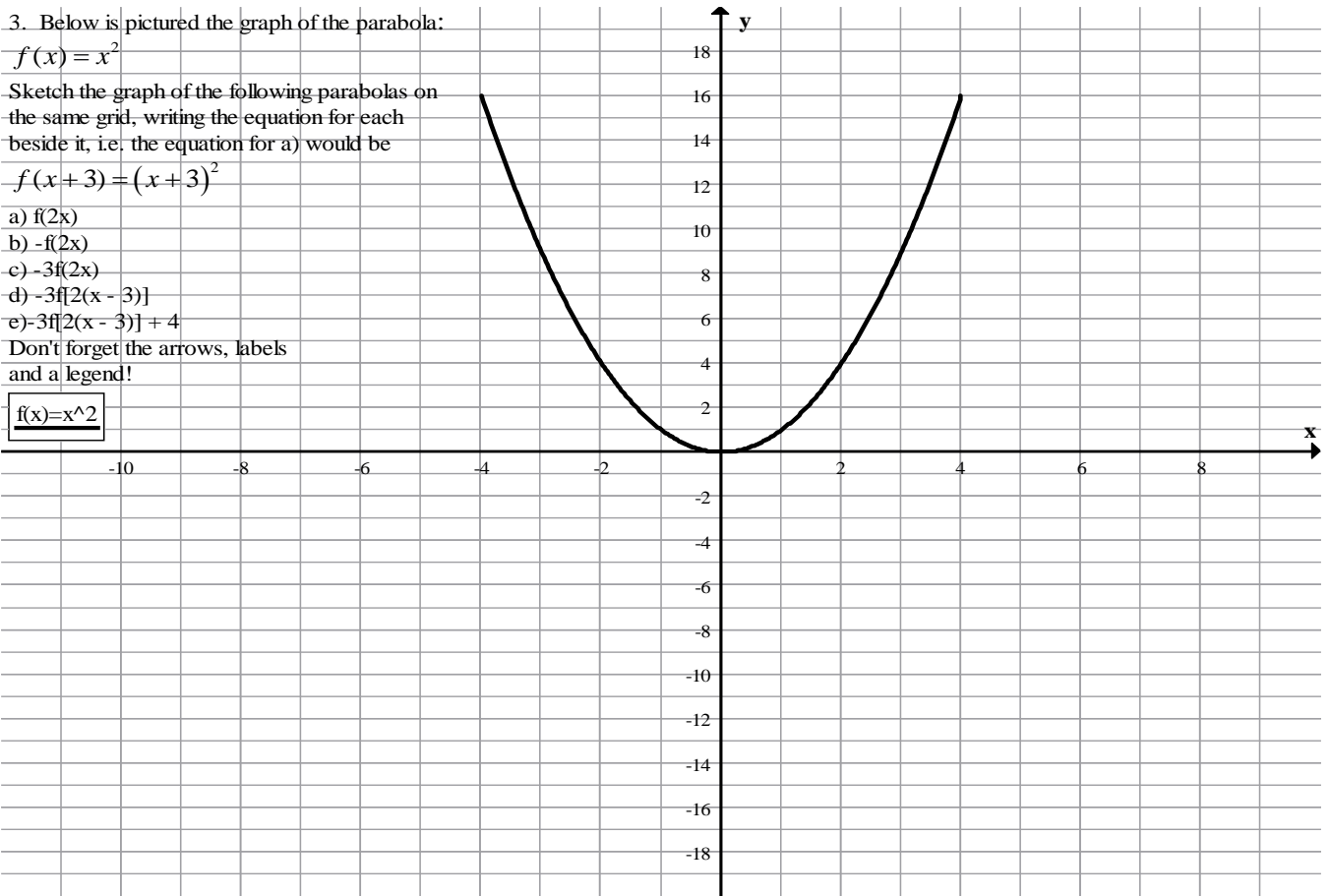
c) $-3f(2x)$

d) $-3f[2(x-3)]$

e) $-3f[2(x-3)] + 4$

Don't forget the arrows, labels and a legend!

$f(x) = x^2$



4. Below is pictured the graph of the parabola:

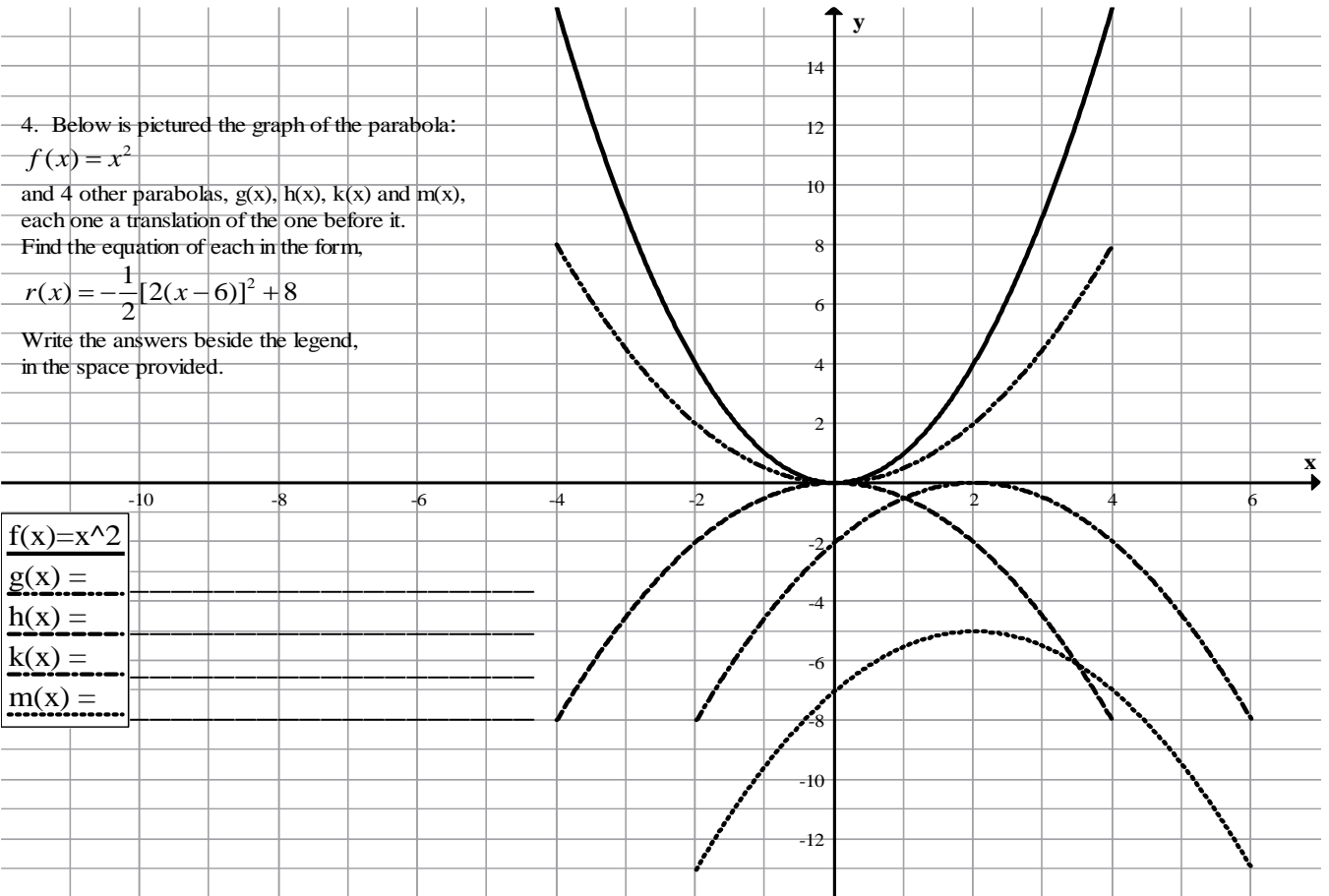
$$f(x) = x^2$$

and 4 other parabolas, $g(x)$, $h(x)$, $k(x)$ and $m(x)$, each one a translation of the one before it.

Find the equation of each in the form,

$$r(x) = -\frac{1}{2}[2(x-6)]^2 + 8$$

Write the answers beside the legend, in the space provided.



$f(x) = x^2$

$g(x) =$	_____
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$h(x) =$	_____
----------	-------

$k(x) =$	_____
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$m(x) =$	_____
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