HAT 10/25/17
Combining Functions

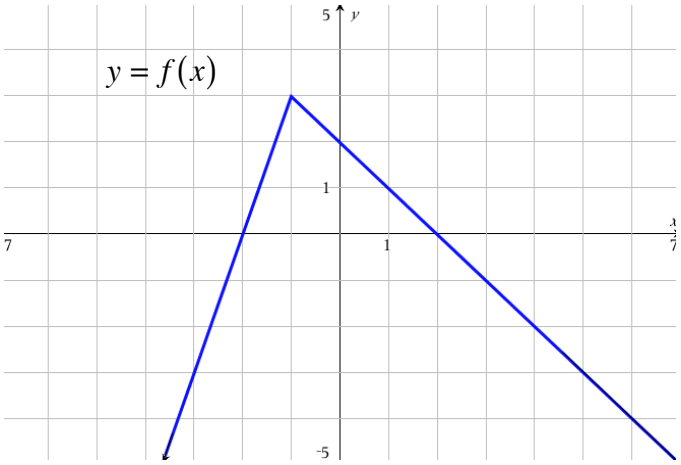
Warm Up:

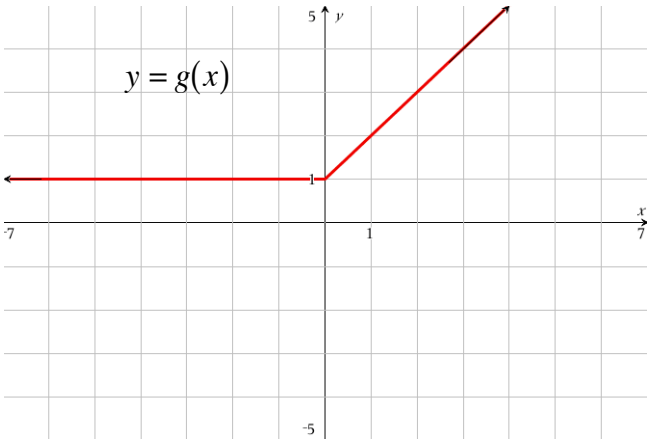
1) Given $p(x) = 3x - 5$ and $q(x) = x^2 - 2$, find

a) $(q - p)(4)$

b) $\left(\frac{p}{q}\right)(4)$

Ex#1) These are the graphs of $y = f(x)$ and $y = g(x)$. Carefully create the graphs on the next page…





Ex#2) State the domain and range of *f*, the domain and range of *g*, and the domain and range of each of the combinations in (a) through (d). Pay close attention to any restrictions.

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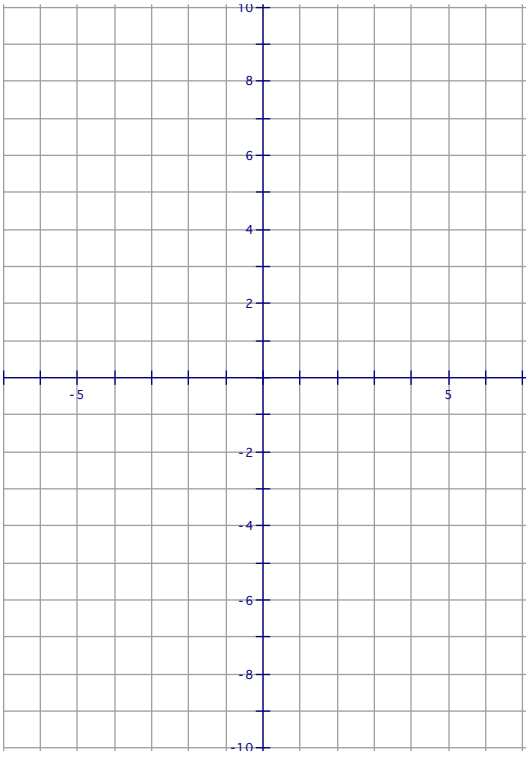
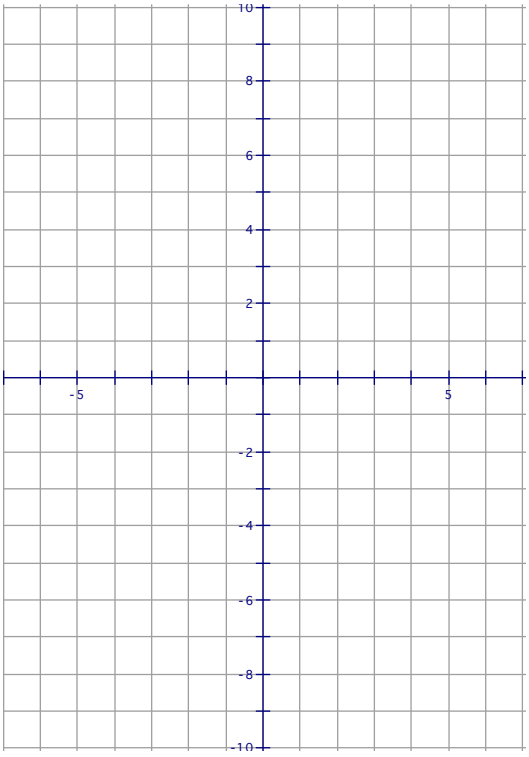
Ex#1: GRAPHS (NC)

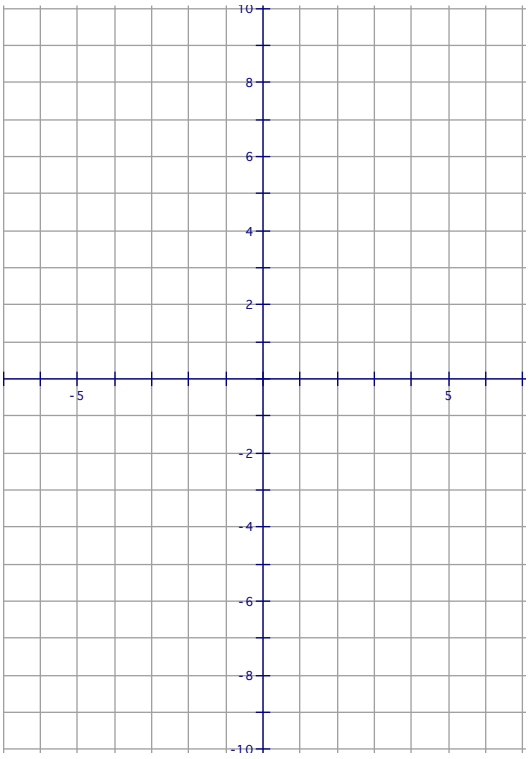
a) $y = (f + g)(x)$



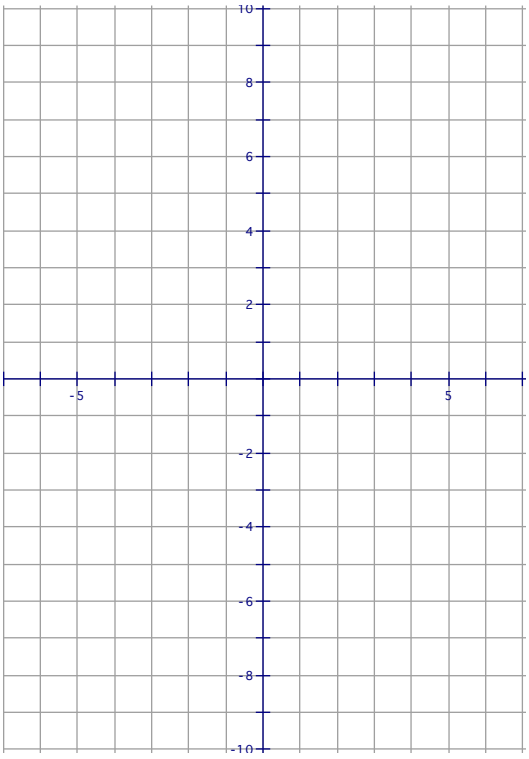
b) $y = (f - g)(x)$



c) $y = (f \cdot g)(x)$



d) $y = \left(\frac{g}{f}\right)(x)$



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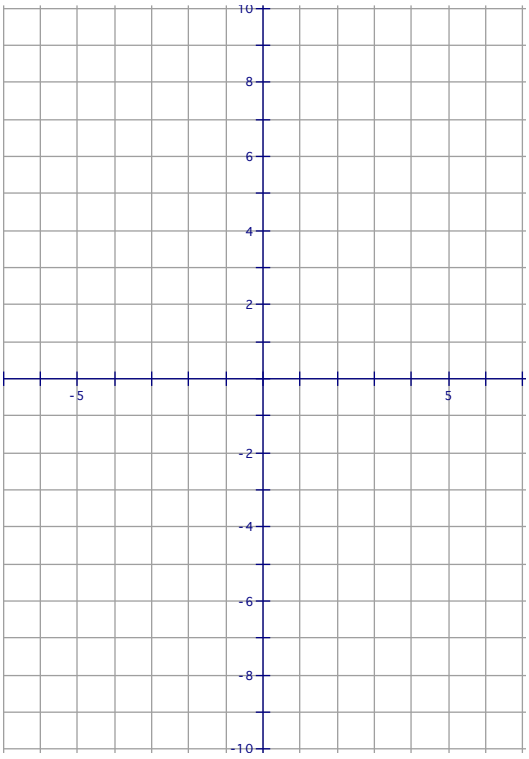
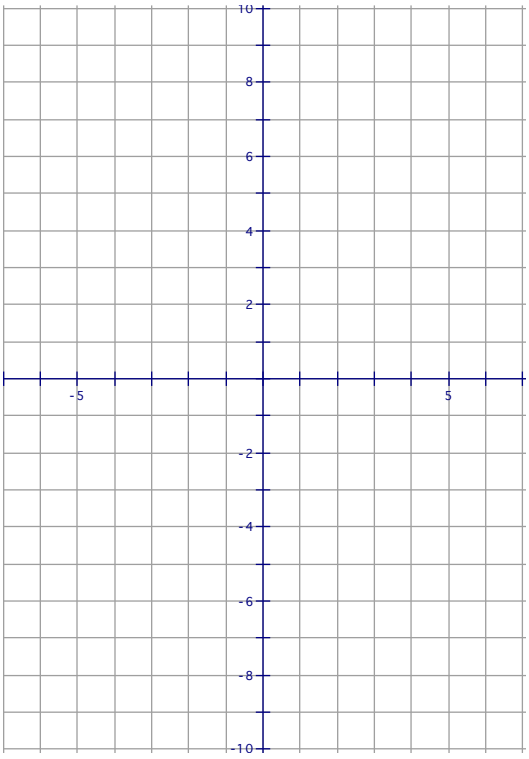
1) (NC) $f(x)=x^2$ and $g(x)=x-5$ (GRAPH, find EQUATION, state DOMAIN/RANGE)

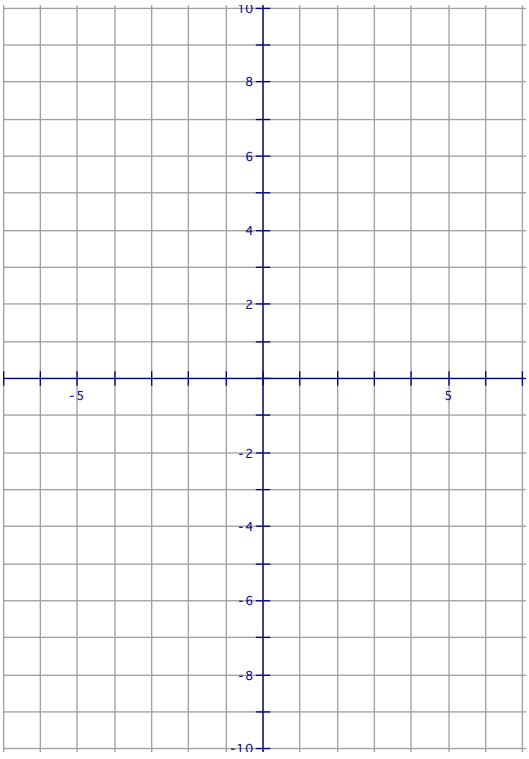
a) $y=(f+g)(x)$



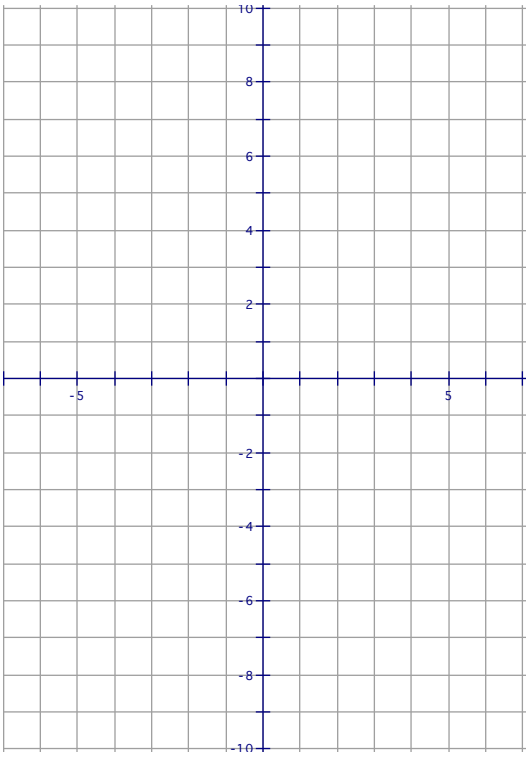
b) $y=(f-g)(x)$



c) $y=(f\cdot g)(x)$



d) $y=\left(\frac{g}{f}\right)(x)$



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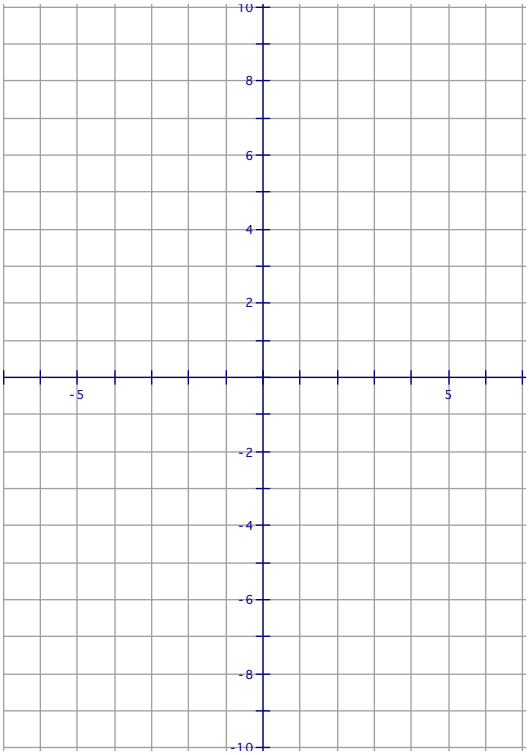
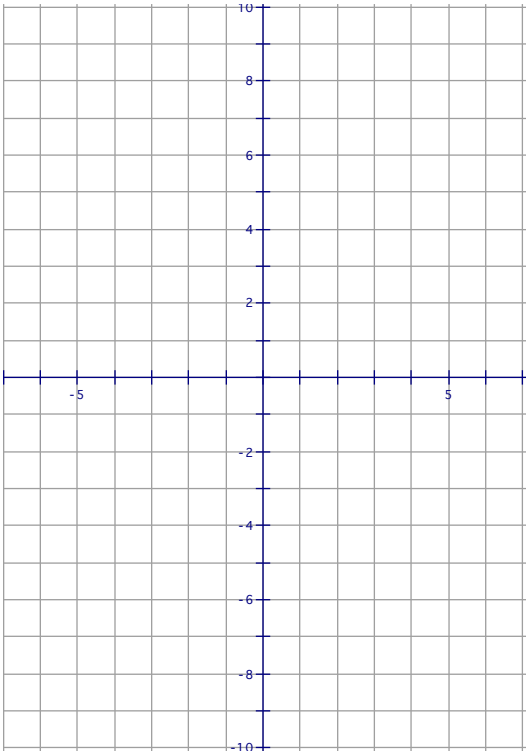
2) (WC) $f(x) = -x^2 + 6$ and $g(x) = 2x^2 + 3x - 5$ (GRAPH, find EQUATION, state DOMAIN/RANGE)

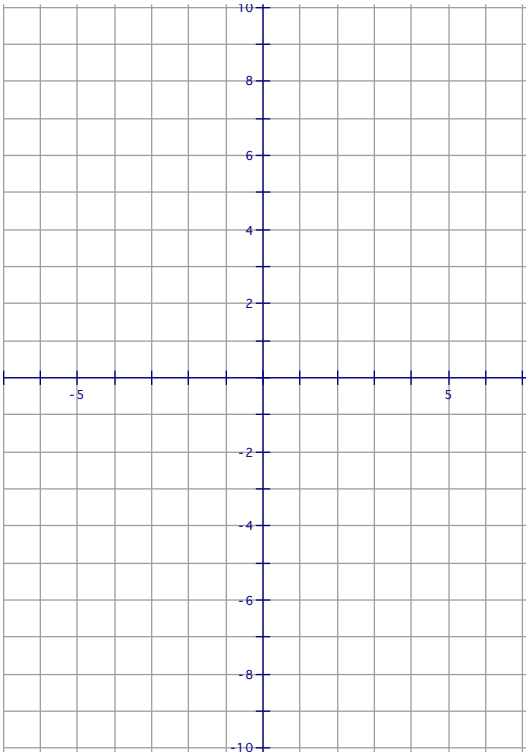
a) $y = (f + g)(x)$



b) $y = (f - g)(x)$



c) $y = (f \cdot g)(x)$



d) $y = \left(\frac{f}{g}\right)(x)$