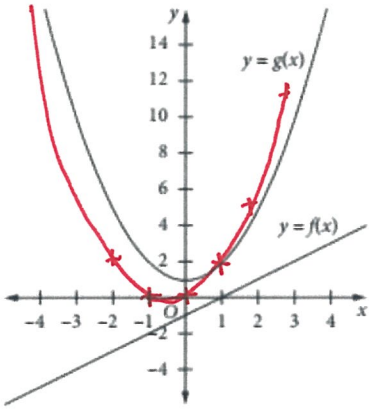
# GRAPHING POLYNOMIALS BY ADDING ORDINATES

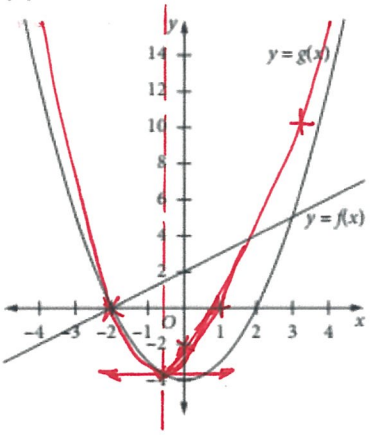
1 The graphs of $y = f(x)$ and $y = g(x)$ are shown. By drawing vertical lines and adding ordinates, draw the graph of $y = f(x) + g(x)$. Comment on the new curve.

(a)



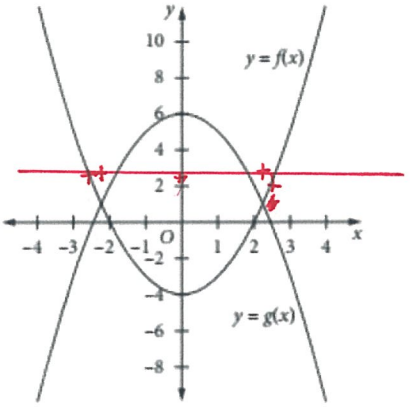

parabola (which is normal as we add a quadratic and a linear function, ∴ we end up with a quadratic)

(b)



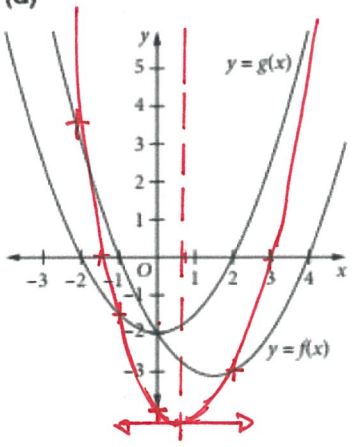

parabola

(c)

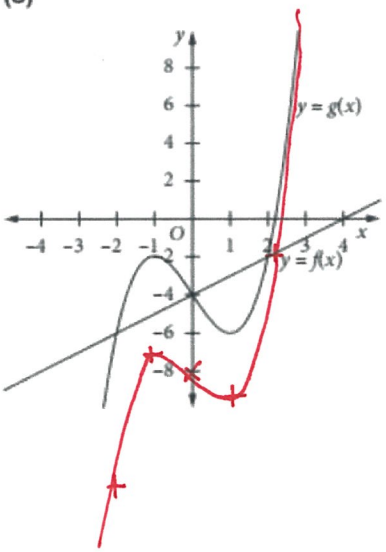



line (The $x^2$ terms in the parabolas cancel each other)

(d)

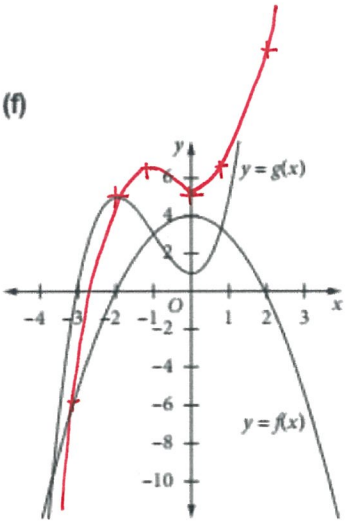



(e)




cubic

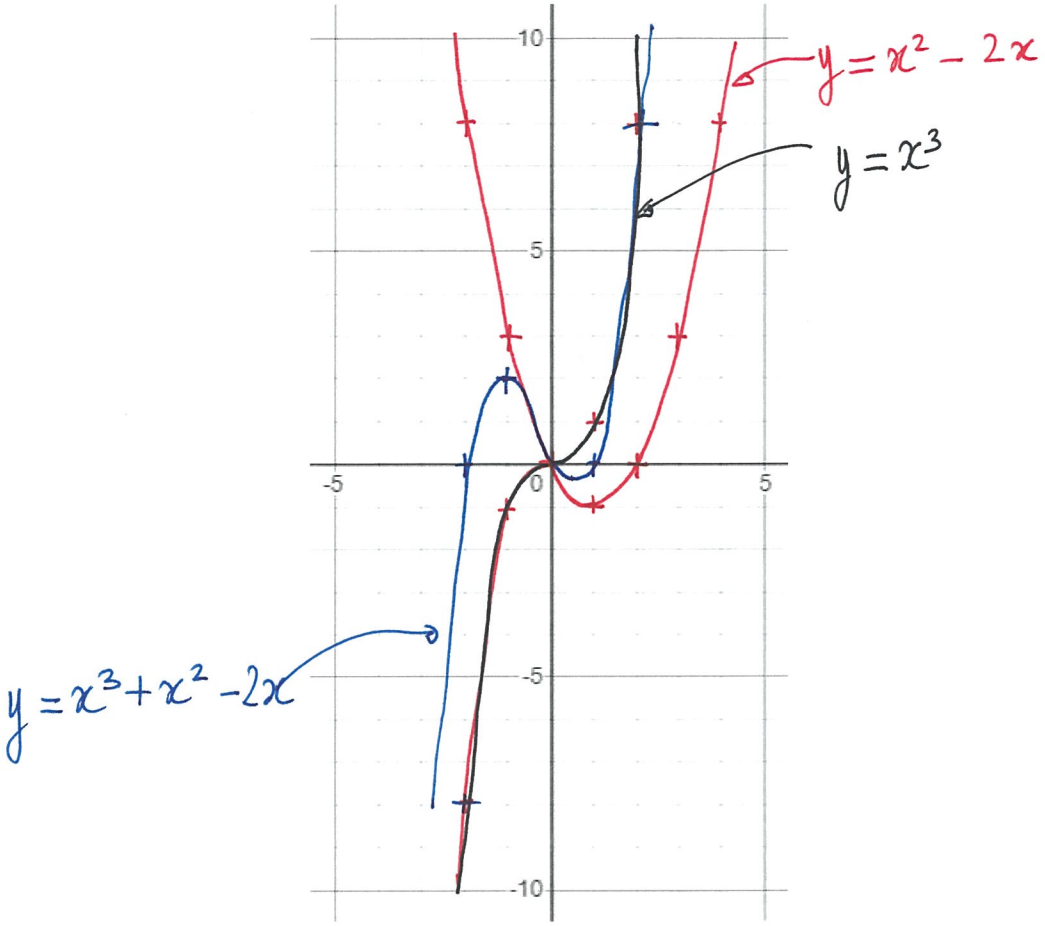
(f)



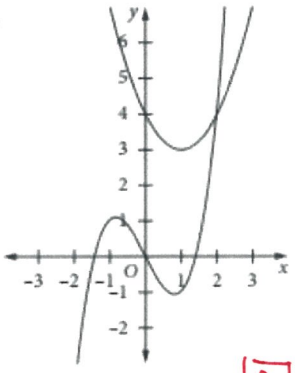

cubic

# GRAPHING POLYNOMIALS BY ADDING ORDINATES

**3** On the same diagram, sketch the graphs of $y = x^2 - 2x$ and $y = x^3$. Use these graphs to sketch $y = x^3 + x^2 - 2x$.




**5** The graphs of $y = x^2 - 2x + 4$ and $y = x^3 - 2x$ are shown.



Which diagram represents the graph of $y = x^3 + x^2 - 4x + 4$?

Answer B