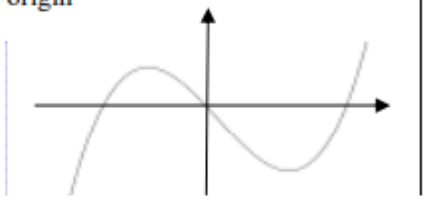
Question 12 – 1:

12(a)	85[.0], 265[.0] and no others	**2**	**B1** for each If 0 scored **SC1** for two values in the range with a difference of 180 but not multiples of 90
12(b)	correct shape and passes through origin 	**3**	**B1** for any positive cubic shape **B1** for sketch with one max and one min and with 3 roots including zero If 0 scored, **SC1** for $x(x+2)(x-2)$ soi
12(c)	$a=-12$ $b=5$ $k=-11$	**6**	**B5** for 2 correct OR **B2** for $3x^2+a$ or **B1** for $3x^2$ isw **M1dep** on at least B1 for *their* $\frac{dy}{dx}=0$ **M1dep** on at least B1M1 for $x=2$ or $x=-2$ substituted in *their* $\frac{dy}{dx}=0$ equation **M1** for $k=2^3+2\times$*their* $a+b$ **and** $10-k=(-2)^3+(-2)\times$*their* $a+b$