Answers and mark guide

Q	Answer	Working	Marks
1	**5, 0, −3, −4, −3, 0, 5**	Substitute each value of x.	3
2	**12**	Substitute x.	2
3	**(0, 0)**	Set x = 0.	2
4	**x = 1 and x = 3**	Where the curve crosses the x-axis.	3
5	**x = 2**	Halfway between the roots.	2
6	**(0, −4)**	Read the lowest point.	3
7	**−9**	The y-coordinate of the turning point.	2
8	**x = 0.4, x = 5.6**	Draw the line y = 3 and read where it meets the curve.	4
9	**−2 < x < 4**	Where the curve is below the x-axis.	3
10	**−9**	Substitute the turning-point x.	2
11	**x = 0.4, x = 5.6**	Draw y = k and read the x-values.	4
12	**A U-shaped parabola with a minimum**	Positive x^2 coefficient	3
13	**(−1, 0) and (5, 0)**	y = 0	3
14	**Add the translation to the original y-intercept**	Moving up adds to every y-value.	3
15	**$x^2 - 8 = 0$**	$x^2 - 4 = 4$	3
16	**(1, −4)**	$y = (x - 1)^2 - 4$	5
17	**$y = -(x^2 - 4x - 5)$**	Multiply y by −1	5
18	**x < −1 or x > 3**	Where the curve is above the x-axis.	5
19	**y-intercept 5; roots 1 and 5**	Factorise to find the roots.	5
20	**2**	3 − 1	4

My score: _____ / **66** Questions 1–15 = 42 marks (Foundation focus)