Answers and mark guide

Q	Answer	Working	Marks
1	**A′(−6, −4), B′(−12, −4), C′(−6, −8)**	Multiply each coordinate by the scale factor.	4
2	**A′(−3, −2), B′(−6, −2), C′(−3, −3)**	Multiply each coordinate by the scale factor.	4
3	**A′(−3, −2), B′(−4, −2), C′(−3, −4)**	Multiply each coordinate by the scale factor.	4
4	**A′(−2, −3), B′(−5, −3), C′(−2, −6)**	Multiply each coordinate by the scale factor.	4
5	**A′(−4, −2), B′(−8, −2), C′(−4, −6)**	Multiply each coordinate by the scale factor.	4
6	**A′(−3, 1/2), B′(−9/2, 1/2), C′(−3, −1/2)**	New point = centre + k × (old point − centre).	5
7	**A′(−13, −2), B′(−16, −2), C′(−13, −8)**	New point = centre + k × (old point − centre).	5
8	**A′(−6, −1), B′(−12, −1), C′(−6, −4)**	New point = centre + k × (old point − centre).	5
9	**A′(1/2, 0), B′(−1, 0), C′(1/2, −1)**	New point = centre + k × (old point − centre).	5
10	**A′(5, −6), B′(2, −6), C′(5, −9)**	New point = centre + k × (old point − centre).	5
11	**An enlargement with scale factor −2 about the centre**	Negative scale factor: the image is inverted and on the other side of the centre.	4
12	**Lengths are 3 times longer; the shape is turned upside-down (rotated 180°) on the opposite side of the centre**		3
13	**(−4, −6)**	Multiply both coordinates by −2.	3
14	**(−1, 1)**	P′ = 2c − P	4
15	**24 cm²**	Area scale factor = $(-2)^2 = 4$	3
16	**−2**	A′ = k × A	5

Q	Answer	Working	Marks
17	**144 cm²**	$(3 \times 4)^2$	4
18	**(0.5, 1.5)**	The centre is the midpoint of PP'.	5
19	**(−1, −1)**	$A' = c - 2(A - c)$	4
20	**Both double the lengths, but −2 puts the image on the opposite side of the centre and turned upside-down**	Negative scale factors invert the shape.	3

My score: _____ / 83 Questions 1–15 = 62 marks (Foundation focus)