f r q

✓

0	1	2

The student response includes both of these criteria.

- t-coordinates
- $h(t)$-coordinates

Model Solution

F has coordinates $(0, 210)$.

G has coordinates $(3, 200)$.

J has coordinates $(6, 190)$.

K has coordinates $(9, 200)$.

P has coordinates $(12, 210)$.

Note: t-coordinates will vary. A correct set of coordinates for one full cycle of h as pictured is acceptable.

Part B

Select a point value to view scoring criteria, solutions, and/or examples to score the response.

✓

0	1	2

The student response includes both of these criteria.

- Values for a and d (vertical transformations)
- Values for b and c (horizontal transformations)

Model Solution

$h(t) = a \sin(b(t + c)) + d$

$a = 10$

$\frac{2\pi}{b} = 12$, so $b = \frac{2\pi}{12} = \frac{\pi}{6}$

$c = -9$