NOTE: Write solutions ON THIS SHEET (3-POINT DEDUCTION if not) and upload to Gradescope.
Fully justify your answers - give exact values not decimal approximations.
Rose boarded a car of a Ferris wheel at the 6 o'clock position. The wheel has a diameter of 12 meters with its center at 8 meters above the ground. Each clockwise revolution of the wheel takes 5 minutes.

1. Determine the periodic function, $h(t)$, that models the height that Rose's car is above the ground with respect to time as it revolves.

$$
h(t)=
$$

2. State the equation of the midline from Question 1.
3. Given $f(x)=2 x^{2}-9 x-5$, express the following as ordered pairs using integers or fully reduced fractions as appropriate. If it does not exist, show why not.
a. $y$-intercept(s), if any
$\qquad$
b. $x$-intercept(s), if any
