For each of the following recurrences, use the Master Theorem to give an asymptotic bound on each of the defined sequences. (I.e., give a function $f(n)$ such that $T(n)$ is $\Theta(f(n))$.)

1.

$$\begin{aligned} T(0) &= 1 \\ T(1) &= 1 \\ T(n) &= 5T(\lfloor n/3 \rfloor) + 7n^2, \text{ for } n \geq 2 \end{aligned}$$

2.

$$\begin{aligned} T(0) &= 1 \\ T(1) &= 1 \\ T(n) &= 3T(\lfloor n/5 \rfloor) + 6n, \text{ for } n \geq 2 \end{aligned}$$

3.

$$\begin{aligned} T(1) &= 1 \\ T(n) &= 9T(\lceil n/2 \rceil) + 3n^2, \text{ for } n \geq 2 \end{aligned}$$

4.

$$\begin{aligned} T(0) &= 1 \\ T(1) &= 1 \\ T(n) &= 2T(\lfloor n/5 \rfloor) + 3T(\lceil n/5 \rceil) + 8n, \text{ for } n \geq 2 \end{aligned}$$

5.

$$\begin{aligned} T(1) &= 1 \\ T(n) &= 26T(\lceil n/3 \rceil) + n^3, \text{ for } n \geq 2 \end{aligned}$$