Name _____ Date _____

8.6 Practice B

In Exercises 1–4, find the frequency of the function.

1. $y = \cos 3x$

2. $y = -\cos 4x - 3$

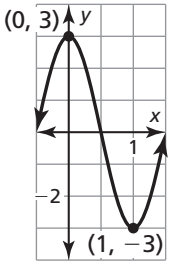
3. $y = \sin \frac{\pi x}{2}$

4. $y = 4 \cos 0.4x - 3$

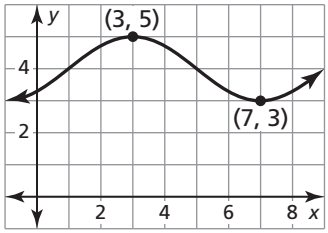
5. A sub-contra-octave A tuning fork (corresponds to the lowest note on a piano keyboard) vibrates with a frequency f of 27.5 hertz (cycles per second). You strike a sub-contra-octave A tuning fork with a force that produces a maximum pressure of 4 Pascals. Write and graph a sine model that gives the pressure P as a function of the time t (in seconds).

In Exercises 6 and 7, write a function for the sinusoid.

6.



7.



8. When you ride a Ferris wheel, your distance from the ground will vary with respect to the number of seconds that have elapsed since the wheel started. The table shows your height h (in meters) above the ground at time t as you ride the Ferris wheel.

t	0	1	2	3	4	5	6	7	8	9	10	11	12	15	20
h	1	2.3	5.8	10.2	13.7	15	13.7	10.2	5.8	2.3	1	2.3	5.8	15	1

a. Use sinusoidal regression to find a model that gives h as a function of t.

b. Predict your height above the ground after 42 seconds have elapsed.