Name_____ Date _____

8.6 Practice A

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

1. $y = \sin 2x$

2. $y = \cos 3x - 1$

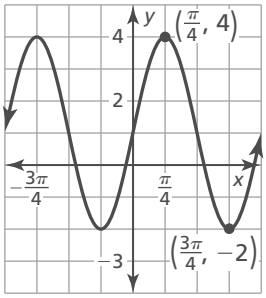
3. $y = -\sin 4x$

4. $y = \cos 5\pi x$

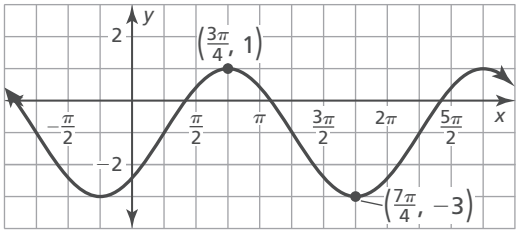
5. A middle-C tuning fork vibrates with a frequency f of 262 hertz (cycles per second). You strike a middle-C tuning fork with a force that produces a maximum pressure of 5 Pascals. Write and graph a sine model that gives the pressure P as a function of the time t (in seconds).

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

6.



7.



8. The table shows the depth d (in feet) of the water at the end of an inland dock that is located in a saltwater river that is affected by ocean tides. The time t is measured in hours, with $t = 0$ representing midnight.

t	Midnight	2 A.M.	4 A.M.	6 A.M.	8 A.M.	10 A.M.	Noon
d	2.55	3.80	4.40	3.80	2.55	1.80	2.27

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

b. Predict the depth of the water at the end of the dock at 5 P.M.