Name _____

10-6A **Lesson Master**

SKILLS Objective J

1. On the same axes below, graph $f(\theta) = \sin\theta$ and $g(\theta) = \cos\theta$ over the domain $-360 \le \theta \le 360$.
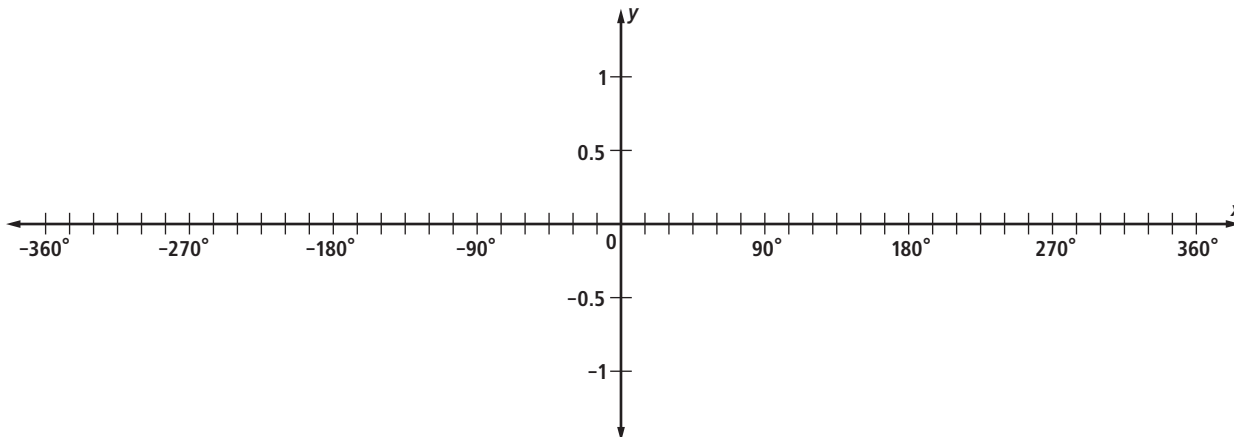
Use your graph from Question 1 to help answer Questions 2–5.

2. Give the domain and range of the cosine function. _____

3. Find all θ-intercepts of the sine function shown on the graph. _____

4. Find a θ-intercept of the sine function that is *not* shown on the graph. _____

5. **Fill in the Blanks** As θ increases from $180°$ to $270°$,

   $\sin\theta$ _____ from _____ to _____.

6. The table below shows the time of sunset on the 1st day of each month in a given year for Seattle, WA.

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Sunset	4:28	5:10	5:55	7:40	8:22	9:00	9:11	8:43	7:49	6:48	5:51	4:20

a. Explain why these data can be modeled by a periodic function.

_____

b. Estimate the domain and range of a sinusoidal function that models these data.

_____

7. The height of a bouncing ball over time is graphed at the right. Explain why this graph is *not* periodic.

_____

_____

Advanced Algebra **531**