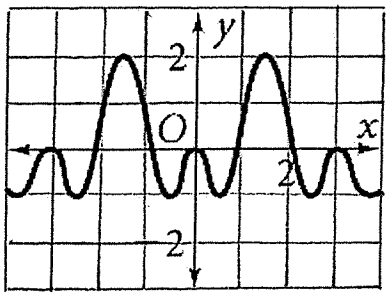
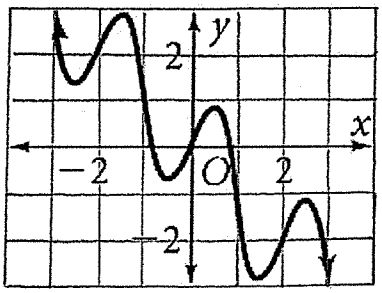
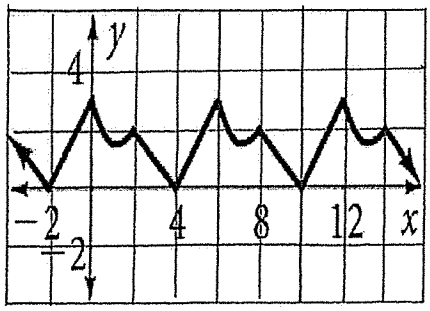
Algebra 2 Review Sec 13-1 to 13-4 Spring 2016

For 1-3, state if each function is periodic. If yes, state the Period, Amplitude, and equation of the Midline.

1. 2. 3.







4. Find both a positive and a negative coterminal angle for each given angle. For part (a) give your answer in degrees and for part (b) give your answer in radians.

a) $685°$ b) $-\frac{17\pi}{7}$

5. Find the measure of an angle between $0°$ and $360°$ that is coterminal with each angle. Give your answer in degrees.

a) $-820°$ b) $2350°$

6. Find the measure of an angle between 0 and 2π that is coterminal with each angle. Give your answer in radians.

a) $\frac{21\pi}{8}$ b) $-\frac{14\pi}{5}$

7. Convert each angle measure to degrees.

a) $-\frac{5\pi}{9}$ b) $\frac{31\pi}{12}$

8. Convert each angle measure to radians. Leave your answer as a fraction in terms of π in reduced form.

a) $504°$ b) $84°$

9. Give the exact value of each.

a) $\text{Cos}630°$ b) $\text{Sin}855°$ c) $\text{Cos}(-570°)$ d) $\text{Tan}450°$

e) $\text{Tan}\frac{5\pi}{3}$ f) $\text{Sin}\frac{21\pi}{4}$ g) $\text{Cos}33\pi$ h) $\text{Tan}\frac{25\pi}{6}$

i) $\text{Sin}\left(-\frac{13\pi}{2}\right)$ j) $\text{Tan}(-17\pi)$

10. In which quadrant or on what axis does the terminal side of each angle lie?

a) $1872°$ b) $-1260°$ c) $\frac{16\pi}{3}$ d) $-\frac{32\pi}{5}$ e) $\frac{11\pi}{2}$

11. Find all angles $0° \leq \theta \leq 360°$ that make each true.

a) $\text{Sin}\theta = \frac{\sqrt{2}}{2}$ b) $\text{Cos}\theta = -\frac{1}{2}$ c) $\text{Tan}\theta = -\frac{\sqrt{3}}{3}$ d) $\text{Sin}\theta = 0$

e) $\text{Tan}\theta$ is undefined f) $\text{Tan}\theta = \sqrt{3}$ g) $\text{Tan}\theta = -1$

12. State the period and amplitude for each sine function.

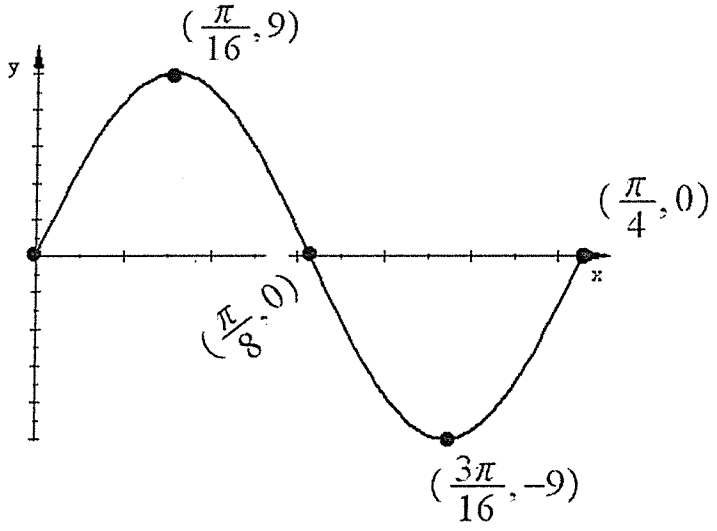
a) $y = 4\sin 6x$ b) $y = -7\sin\frac{x}{4}$

13. Graph one period of each sine function. Label the coordinates of all maximums, minimums, and zeros.

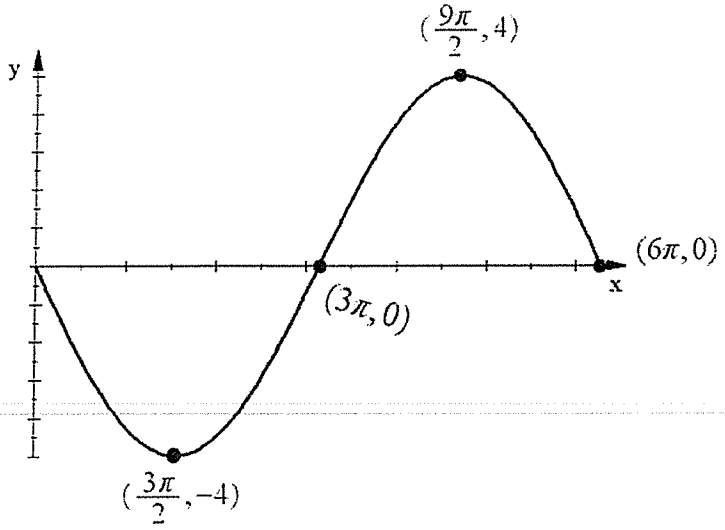
a) $y = 2\sin 3x$ b) $y = -6\sin\frac{x}{5}$

14. Write the equation of each sine function.

a)



b)



Algebra 2 Review Sec 13-1 to 13-4 ANSWERS Spring 2016

1. Periodic. Period = 3, Amplitude=1.5, Midline: $y = 0.5$ 2. Not Periodic

3. Periodic. Period=6, Amplitude=1.5, Midline: $y = 1.5$

4. There are an infinite number of possibilities for each answer. Some example answers are given.
a) Pos: $325°, 1045°$ Neg: $-35°$ b) Pos: $\frac{11\pi}{7}$ Neg: $-\frac{3\pi}{7}, -\frac{31\pi}{7}$

5. a) $260°$ b) $190°$ 6. a) $\frac{5\pi}{8}$ b) $\frac{6\pi}{5}$

7. a) $-100°$ b) $465°$ 8. a) $\frac{14\pi}{5}$ b) $\frac{7\pi}{15}$

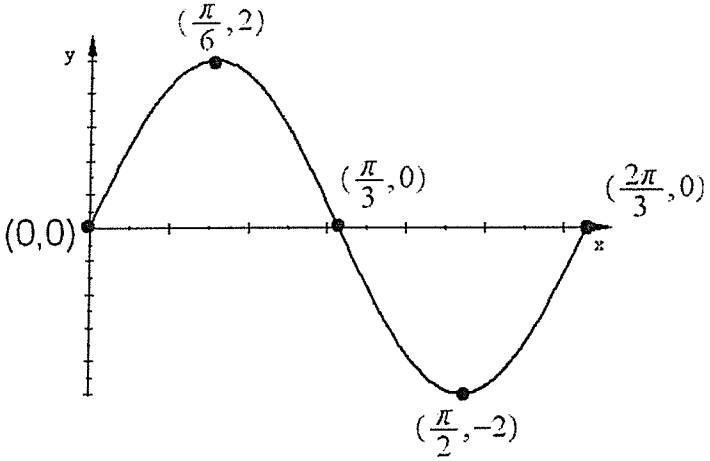
9. a) 0 b) $\frac{\sqrt{2}}{2}$ c) $-\frac{\sqrt{3}}{2}$ d) undefined e) $-\sqrt{3}$ f) $-\frac{\sqrt{2}}{2}$ g) -1 h) $\frac{\sqrt{3}}{3}$ i) -1 j) 0

10. a) Quad I b) neg x-axis c) Quad III d) Quad IV e) neg y-axis

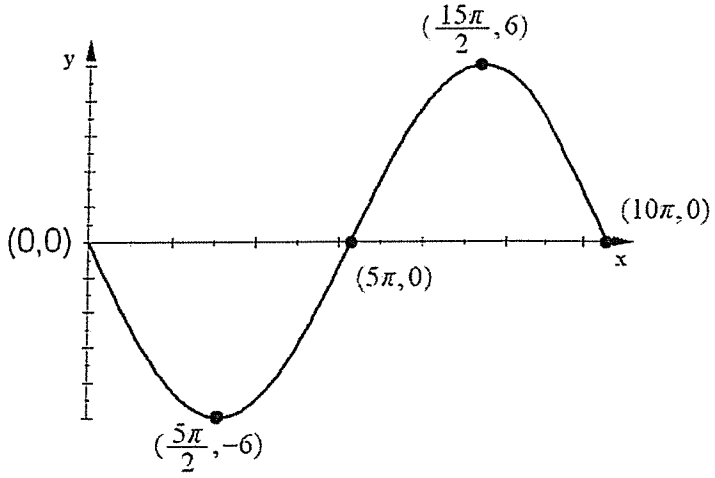
11. a) $45°, 135°$ b) $120°, 240°$ c) $150°, 330°$ d) $0°, 180°, 360°$ e) $90°, 270°$
f) $60°, 240°$ g) $135°, 315°$

12. a) Period = $\frac{\pi}{3}$ Amplitude = 4 b) Period = 8π Amplitude = 7

13. a)



b)



14. a) $y = 9\sin 8x$ b) $y = -4\sin\frac{x}{3}$