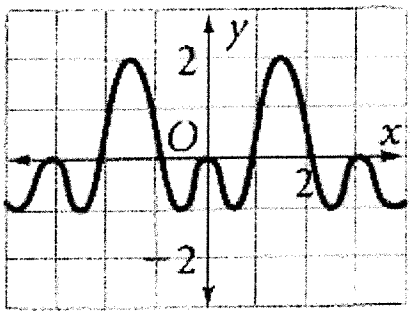
Algebra 2 Review Sec 13-1 to 13-4 Spring 2015

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

1.



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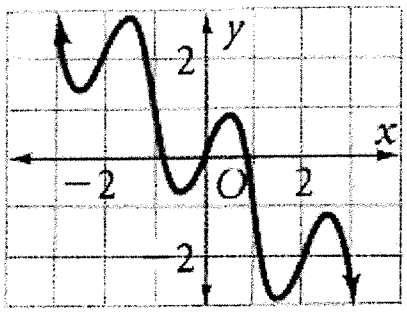

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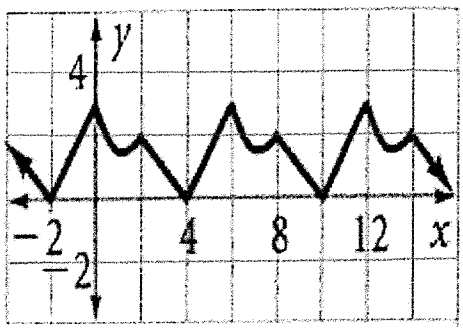


4. Find both a positive and a negative coterminal angle for each given angle. Give your answer in the same units as the given angle.

a) $685°$ b) $-\frac{31\pi}{7}$

5. Find the measure of an angle between $0°$ and $360°$ that is coterminal with each given angle.

a) $-820°$ b) $2350°$

6. Find the measure of an angle between 0 and 2π that is coterminal with each given angle.

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

7. Convert each angle measure to degrees. Round to the nearest tenth where needed.

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

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

a) $504°$ b) $-75°$

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 which 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. State all angles ($0° \le \theta \le 360°$) that meet each condition.

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

12. State the period and amplitude of each Sine function.

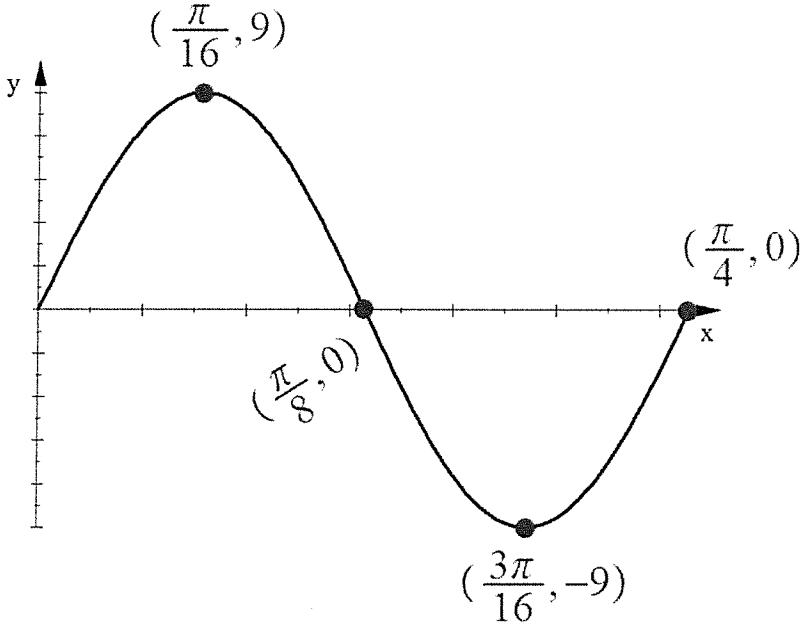
a) $y = 4\text{Sin}6x$ b) $y = -7\text{Sin}\frac{x}{4}$

13. Graph one period of each Sine function. Label the coordinates of all maximums, minimums, and x-intercepts.

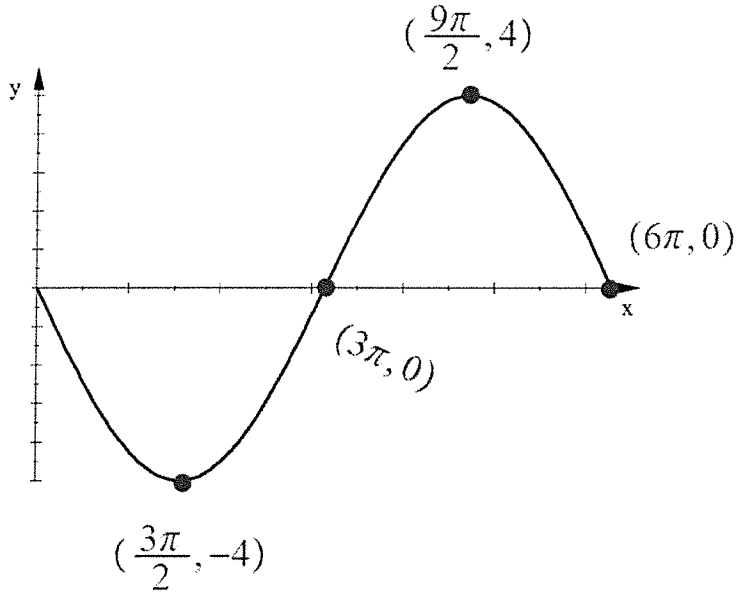
a) $y = 2\text{Sin}3x$ b) $y = -6\text{Sin}\frac{x}{9}$

14. Write the equation of each Sine function (you may want to find the period and amplitude first!)

a.



b.



Algebra 2 Review ANSWERS Sec 13-1 to 13-4 Spring 2015

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

3. Yes, graph is periodic. Period = 6 Amplitude = 1.5 Midline: $y = 1.5$

4. There are an infinite # of possible answers for each. Some commone example answers are given.
a) Pos $325°, 1045°, \ldots$ Neg $-35°, -395°, \ldots$ b) Pos $\frac{11\pi}{7}, \frac{25\pi}{7}, \ldots$ Neg $-\frac{45\pi}{7}, -\frac{17\pi}{7}, \ldots$

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) $\frac{-5\pi}{12}$

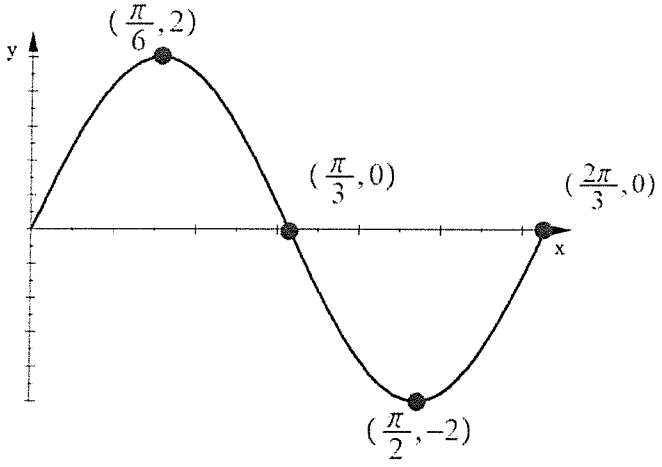
9. a) 0 b) $\frac{\sqrt{2}}{2}$ c) $\frac{-\sqrt{3}}{2}$ d) Undefined e) $-\sqrt{3}$ f) $\frac{-\sqrt{2}}{2}$ g) -1 h) $\frac{\sqrt{3}}{3}$ i) -1 j) 0

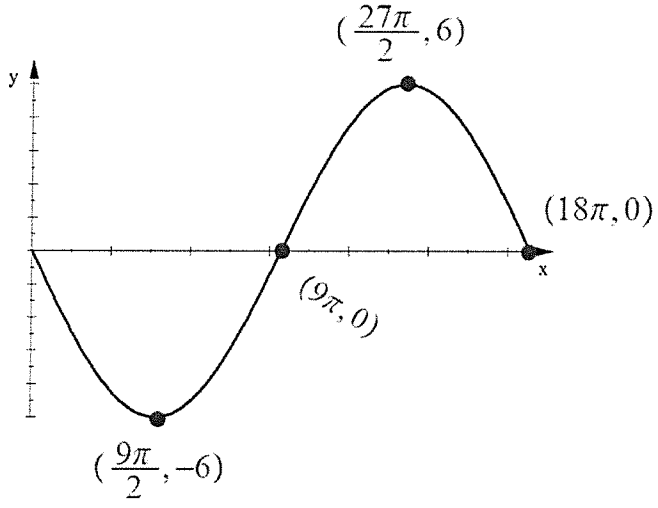
10. a) Quad I b) Neg x-axis c) Quad III d) Quad IV e) Neg y-axis

11. a) $120°, 240°$ b) $0°, 180°, 360°$ c) $45°, 135°$ d) $150°, 330°$ e) $0°, 360°$

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

13. a) b)





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