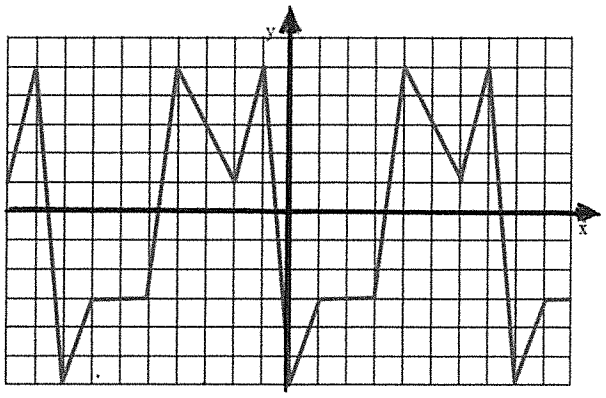
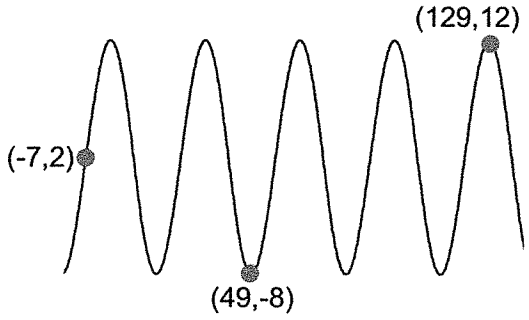
Alg 2 Classwork Wednesday, April 10, 2019 Name:

*1. State the amplitude, period, and eq for midline.

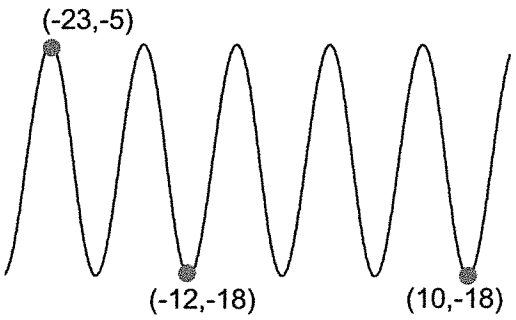


*2. Find the Period, Amplitude, and Eq of the Midline for each periodic function.

a)



b)



*3. Convert angles measured in degrees to radians (leave in terms of π and reduce) and angles measured in radians to degrees (round to nearest tenth if necessary)

a. $\frac{19\pi}{45}$ b. $\frac{7\pi}{30}$ c. $\frac{11\pi}{60}$ d. $340°$ e. $495°$ f. $810°$

*4. For each given angle find both a positive and a negative coterminal angle. Leave answers in the same units (degree/radians) as the given angles.

a. $1906°$ b. $\frac{18\pi}{7}$ c. $-1325°$ d. $\frac{-63\pi}{11}$

*5. Find an angle between $0°$ and $360°$ if in degrees, or between 0 and 2π if in radians, that is coterminal to the given angle. Leave answers in the same units (degree/radians) as the given angles.

a. $1110°$ b. $-\frac{33\pi}{4}$ c. $-836°$ d. $\frac{55\pi}{3}$ e. $-\frac{83\pi}{6}$ f. $-4187°$

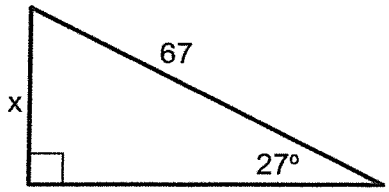
*6. State in which quadrant or on which axis the terminal side of each angle is located.

a. $-1005°$ b. $\frac{43\pi}{5}$ c. $4320°$ d. $\frac{-21\pi}{2}$ e. $2773°$

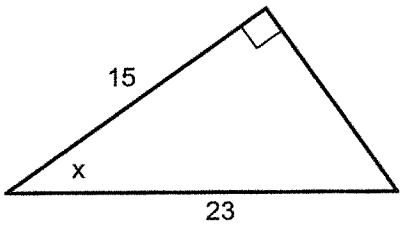
f. $-1350°$ g. $\frac{-85\pi}{12}$ h. $\frac{116\pi}{4}$

*7. Find the value of x in each to the nearest hundredth.

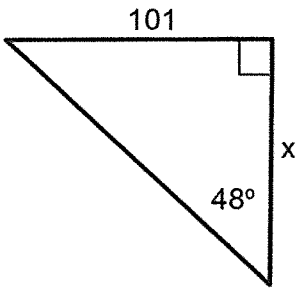
a)



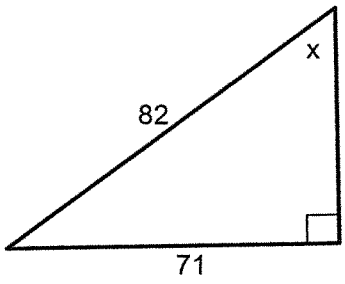
b)



c)

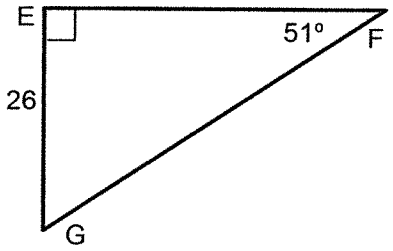


d)

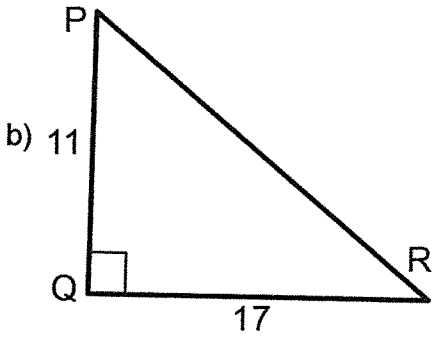


*8. Solve each triangle. Round to the nearest tenth.

a)



b)



For 9 to 11, round to the nearest hundredth.

*9. Some window washers are on the outside of the 14th floor aof a tall building, 140 high. They see their boss on the ground with an angle of depression of $38°$. How far away from the building is their boss?

*10. At the amusement park is a giant slide. You have to climb a ladder to get to the starting point. Your Mom and Dad are at standing on the ground at the finishing point of the slide. The slide is 90 feet long and when you reach the top fo the ladder you are 31 feet high. What angle does the slide make with the ground?

*11. You are at the end of a zip-line running down the side of a hill. You see your sister at the top of the hill where the starting point of the zip-line is with an angle of elevation $18°$. The starting point of the zip-line is 175 feet above where you are. If the average speed of a person going down the zip-line is 32 feet per second find the amount of time, in seconds, it will take your sister to complete the run.

Classwork Answers:

(1) Amplitude = 5.5 Period = 8

midline: $y = -1/2$

---

(2) a) period = 32

Amplitude = 10

midline: $y = 2$

b) period = $22/3$

Amplitude = 6.5

midline: $y = -11.5$

---

(3) a) 76° b) 42° c) 33°

d) $\frac{17\pi}{9}$ e) $\frac{11\pi}{4}$ f) $\frac{9\pi}{2}$

---

(4) Some common answers are given

a) pos: 1546°, 2266° ...

NEG: −254°, ...

b) pos: $\frac{4\pi}{7}, \frac{32\pi}{7}$ ...

NEG: $\frac{-10\pi}{7}$ ...

c) pos: 115°, ...

NEG: −1685°, −965° ...

d) pos: $\frac{3\pi}{11}$, ...

NEG: $\frac{-85\pi}{11}, \frac{-41\pi}{11}$, ...

(5) a) $30°$ b) $\frac{7\pi}{4}$ c) $244°$

d) $\frac{\pi}{3}$ e) $\frac{\pi}{6}$ f) $133°$

---

(6) a) I b) II c) pos x-axis

d) neg y-axis e) III f) pos-y axis

g) II h) neg x-axis

---

(7) a) $x = 30.42$ b) $x = 49.29°$

c) $x = 90.94$ d) $x = 59.98°$

---

(8) a) $\angle G = 39°$ $e = 33.5$ $g = 21.1$

b) $\angle P = 57.1°$ $\angle R = 32.9°$ $g = 20.2$

---

(9) 179.19 ft

(10) $20.15°$

(11) length of zip-line $= 566.31$ ft $\quad d = rt$

$t = 17.70$ sec $\quad 566.31 ft = 32\frac{ft}{s} \cdot t$