

Algebra II  
Trigonometry Review

Name \_\_\_\_\_

Solve the following triangles given the following.

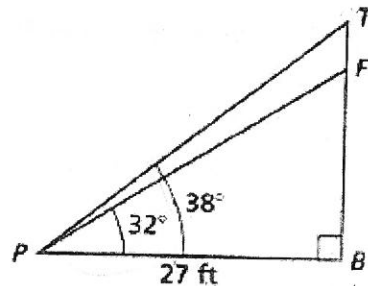
- Right triangle ABC, with right angle C, has side  $a = 12$  and Angle  $B = 63^\circ$ .  $\angle A = 27^\circ$ ,  $b = 23.6$ ,  $c = 26.5$
- Right triangle ABC, with right angle A, has side  $b = 71$  and side  $a = 83$ .  
 $\angle B = 59^\circ$ ,  $\angle C = 31^\circ$ ,  $c = 42.99$

- As shown in the diagram, a pole TF, is on the roof of a shed, FB. From a point P, on the ground 27 feet from the foot of the shed, the measure of the angle of elevation to the top of the pole, T, is  $38^\circ$ , and the measure of the angle of elevation to the foot of the pole, F, is  $32^\circ$ . Determine the height of the pole to the nearest tenth of a foot.

$$\tan 38^\circ = \frac{TB}{27} \quad TB = 21.1$$

$$\tan 32^\circ = \frac{FB}{27} \quad FB = 16.9$$

$$TF = TB - FB = 4.2$$

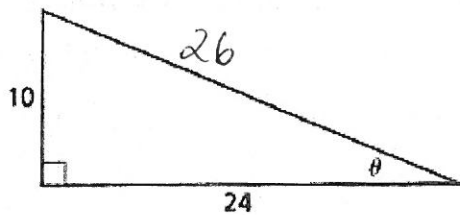


- Find  $\sin(\theta)$ ,  $\cos(\theta)$  and  $\tan(\theta)$  for each of the following triangle.

$$\sin \theta = \frac{10}{26} = \frac{5}{13}$$

$$\cos \theta = \frac{24}{26} = \frac{12}{13}$$

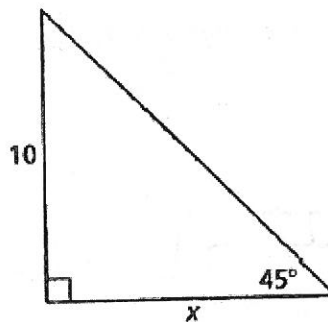
$$\tan \theta = \frac{10}{24} = \frac{5}{12}$$



5. Find the value of  $x$  for the following right triangle.

$$\tan 45^\circ = \frac{10}{x}$$

$$x = 10$$



6. If  $\tan(\theta) = \frac{24}{7}$  and  $\theta$  is in Quadrant III, find  $\sin(\theta)$  and  $\cos(\theta)$

$$\sin \theta = -\frac{24}{25} \quad \cos \theta = -\frac{7}{25}$$

Convert each degree measure into radians and each radian measure into degrees.

7.  $200^\circ \cdot \frac{\pi}{180} = \frac{10\pi}{9}$

8.  $\frac{3\pi}{10} \cdot \frac{180}{\pi}$

$$54^\circ$$

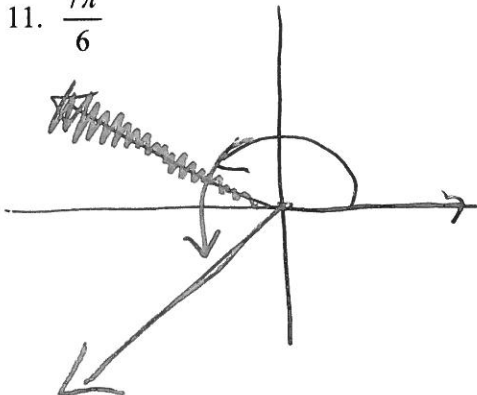
Find one positive angle and one negative angle that are coterminal with the given angle.

9.  $\frac{5\pi}{4}$   $\frac{13\pi}{4}, -\frac{3\pi}{4}$

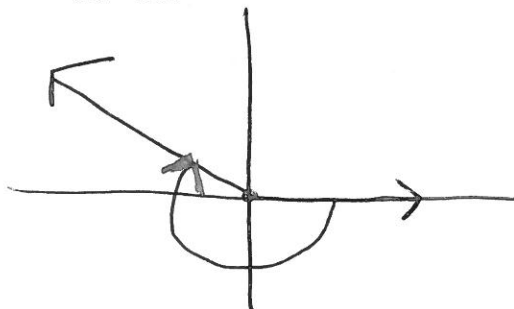
10.  $75^\circ$   $435^\circ$   
 $-285^\circ$

Draw the following angles in standard position.

11.  $\frac{7\pi}{6}$



12.  $-200^\circ$

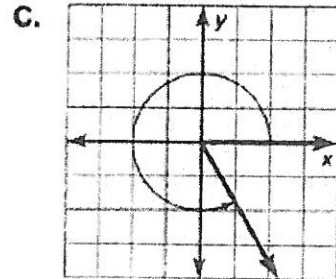
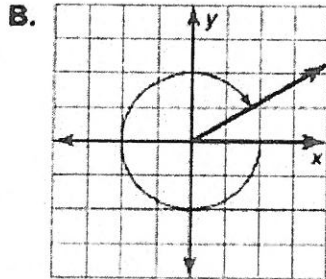
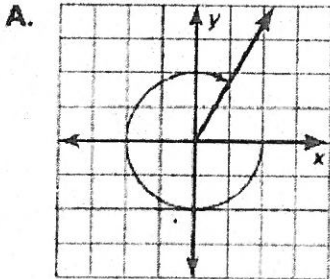


Match the following angle measure with the angle.

13.  $-300^\circ$  **A**

14.  $\frac{5\pi}{3}$  **C**

15.  $-\frac{11\pi}{6}$  **B**



With your calculator find the following to 4 decimal places.

17.  $\sin 40^\circ = \underline{.6428}$

18.  $\cos -\frac{7\pi}{4} = \underline{.7071}$

Evaluate the function without using a calculator.

19.  $\sin 45^\circ = \frac{\sqrt{2}}{2}$

20.  $\cos 210^\circ = \frac{-\sqrt{3}}{2}$

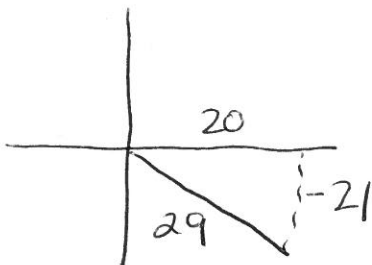
21.  $\tan -240^\circ = \frac{-\sqrt{3}}{1} = -\sqrt{3}$

22.  $\sin \frac{\pi}{2} = \underline{1}$

23.  $\cos -\frac{\pi}{2} = \underline{0}$

24.  $\tan \pi = \underline{0}$

25. Find  $\sin \theta$ ,  $\cos \theta$ , and  $\tan \theta$  if  $(20, -21)$  is on the terminal side of angle  $\theta$  in standard position. (Hint: Draw the angle in standard position)



$$\sin \theta = \frac{-21}{29}$$

$$\cos \theta = \frac{20}{29}$$

$$\tan \theta = \frac{-21}{20}$$

Fill in the following table then graph each of the following.

Period:	Increment:	Pattern:
SA:	Max:	Min:

26.  $f(x) = -3\sin(2x) - 1$

$\widehat{11}$   $\widehat{\frac{11}{4}}$   $i\ m\ i\ m\ i$   
 $y = -1$   $2$   $-4$

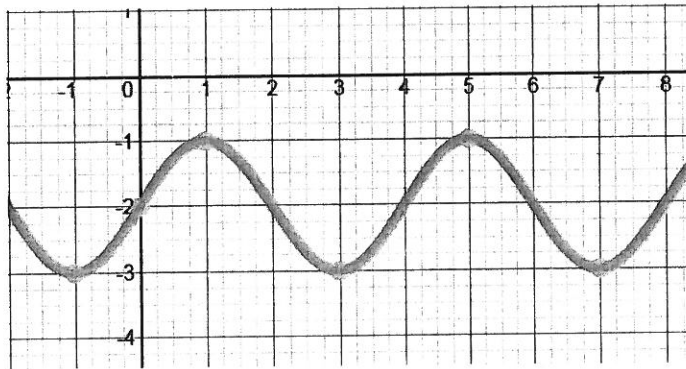
Find the equation of the following sinusoids.

27.  $y = \cos(\pi x) + 3$

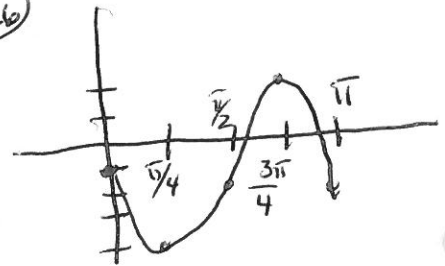
$2$   $\frac{1}{2}$   $M\ i\ m\ i\ m\ M$   
 $y = 3$   $4$   $2$

28.

$y = \sin \frac{11}{2}x - 2$

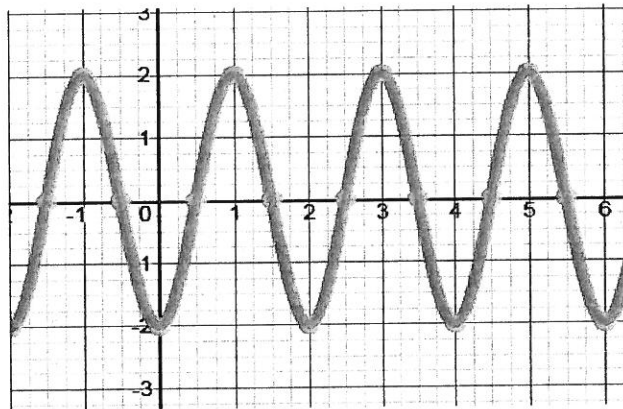


(26)



29.

$y = -2\cos \pi x$



(27)

