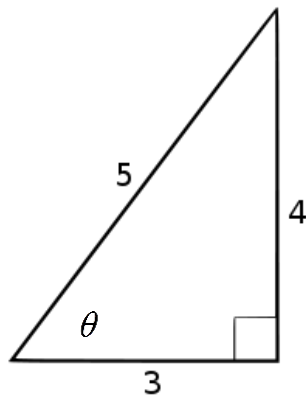1.   Write all six trig ratios for θ.


2.   Which quadrant(s) of the unit circle have **positive sine** values? **Positive cosine** values? **Positive tangent** values?

3.   Evaluate: $\sin\left(\dfrac{4\pi}{3}\right) =$

4.   Evaluate: $\csc\left(\dfrac{\pi}{3}\right) =$

5.   Find the exact value: $\sin^{-1}\left(-\dfrac{\sqrt{2}}{2}\right)$

6.   Find the exact value: $\sin(\tan^{-1} 0)$

7.   Determine the **amplitude** of the following equation: $f(x) = 5\sin x + 2$

8.   Determine the **period** of the following equation: $f(x) = -2\sin(4x) - 3$

9.   The CEO of Apple wants to know how many employees have an iPhone. He surveys 3 employees from every Apple Store. What type of sampling method is this an example of?

10.   The school principal wants to know how many hours students exercise each week. He surveys students from all classes except weight lifting classes. What type of bias is this an example of?

11. A restauraunt prints surveys out on receipts. Customers can choose whether or not to fill it out before they leave. What type of sampling method is this an example of?

12. The power company mailed surveys to all the households in a city, then asked residents to mail the survey back in the postage paid envelope. Of the 22,000 households, 43 surveys were returned. What type of bias is this an example of?

13. Convert $\dfrac{4\pi}{7}$ into degrees.

14. Find the nearest positive coterminal angle and nearest negative coterminal angle to $\dfrac{\pi}{4}$.

    Positive_____ Negative_____

15. Find the nearest positive coterminal angle and nearest negative coterminal angle to $\dfrac{2\pi}{3}$.

    Positive_____ Negative_____

16. Find the nearest positive coterminal angle and nearest negative coterminal angle to $135°$.

    Positive_____ Negative_____

17. Find the nearest positive coterminal angle and nearest negative coterminal angle to $210°$.

    Positive_____ Negative_____

18. An airplane is 32,000 feet above the ground. The angle of elevation from a person's feet to the airplane is 43^0. How far is the airplane from the person? Draw a picture and show your work.

19. An office building is 428 feet tall. The angle of elevation from a person's feet to the top of the building is $72°$. How far is the person standing from the base of the building? Draw a picture and show your work.

20.   Graph the following function. Label both the x and y axis: $f(x) = -4\sin(2x) + 1$.

Amplitude:
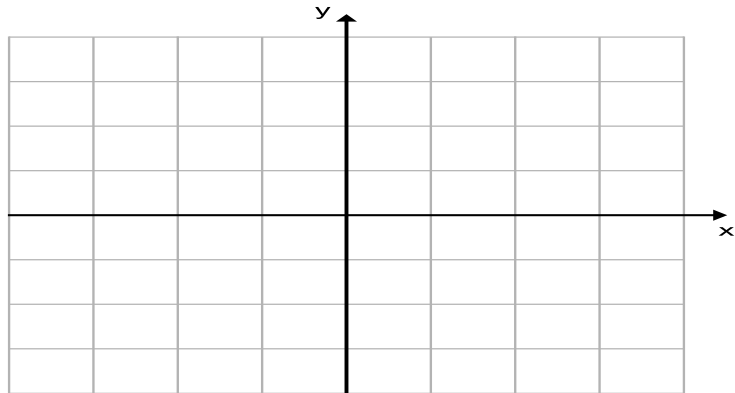
Period:
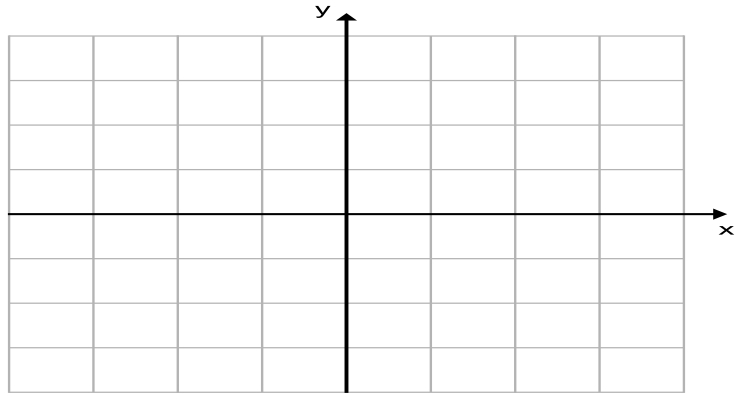
21.   Graph the following function. Label both the x and y axis: $f(x) = 2\sin(x - \frac{\pi}{2}) - 1$.

Amplitude:

Period:

22.   Given a triangle with A=43°, B=71°, and a=17, find b.

Solve the triangle given: $\begin{array}{l} \angle A = 79.7° \\ \angle B = 30.5° \\ c = 89 \end{array}$

23. $\angle C$ _____
24.   a _____
25.   b _____

26. A flagpole is 48 feet tall. A wire from the top of the pole to the ground is 65 feel long. What angle does the wire make with the ground? Round your answer to the nearest tenth.

The heights of professional basketball players have a mean of 79 inches and a standard deviation of 1.8 inches. Assume the heights are normally distributed.

27. Label the diagram using the information given.
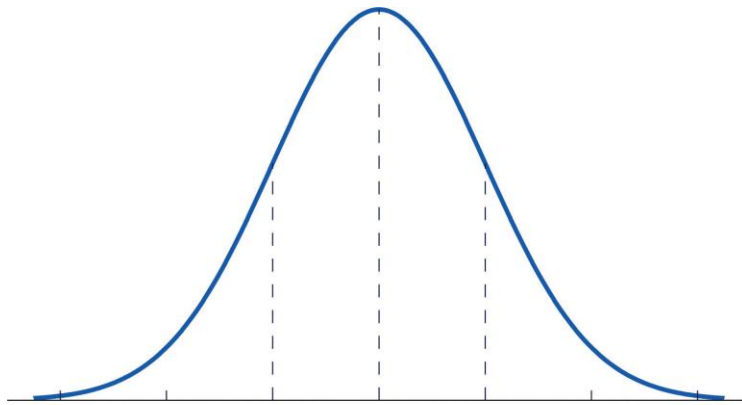
28. Find the probability that a player is between 75.4 and 80.8 inches tall.

29. Find the probability that a player is shorter than 77.2 inches.

30. Is a player who is 82 inches tall in the top 2.5%?

The test scores of students in a class are as follows: 19, 67, 65, 95, 92, 74, 83, 92, 59, 64, 67, 78, 72, 77, 92, 80, 88, 80, 75, 92, 95, 97, 88, 84, 95.

31. Determine the 5 number summary.

32. Construct a box plot to represent the data.

33. Are there any outliers? If so, what?