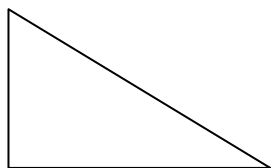


Name: _____

Points: _____

1.



$\sin 30^\circ =$

$\csc 30^\circ =$

$\sin 60^\circ =$

$\csc 60^\circ =$

$\cos 30^\circ =$

$\sec 30^\circ =$

$\cos 60^\circ =$

$\sec 60^\circ =$

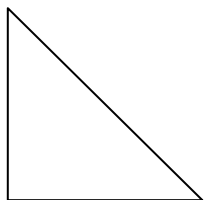
$\tan 30^\circ =$

$\cot 30^\circ =$

$\tan 60^\circ =$

$\cot 60^\circ =$

2.



$\sin 45^\circ =$

$\csc 45^\circ =$

$\cos 45^\circ =$

$\sec 45^\circ =$

$\tan 45^\circ =$

$\cot 45^\circ =$

3. Graph of a Sine Function



$\sin 0^\circ =$

$\sin 90^\circ =$

$\sin 180^\circ =$

$\sin 270^\circ =$

$\sin 360^\circ =$

4. Graph of a Cosine Function



$\cos 0^\circ =$

$\cos 90^\circ =$

$\cos 180^\circ =$

$\cos 270^\circ =$

$\cos 360^\circ =$

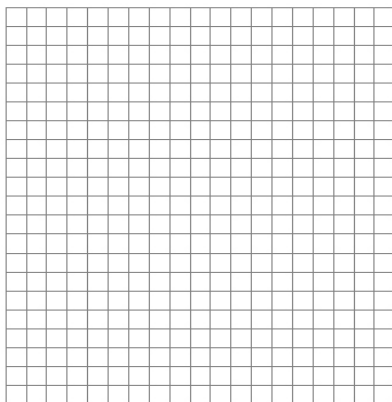
5. Change to radians

- a. 330° b. 225° c. -160°

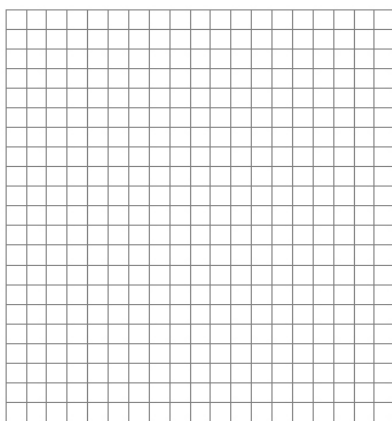
6. Change to degrees

- a. $\frac{\pi}{5}$ b. $\frac{5\pi}{3}$ c. $-\frac{4\pi}{5}$

7. A line passing through point $(2, -3)$. Find the six trigonometric functions.



7. A line passing through point $(-\sqrt{10}, -4)$. Find the six trigonometric functions.



Origins of the Coordinate Plane

René Descartes was a noted French Philosopher of the 17th Century who thoughtfully doubted accepted knowledge. It was in Part II of his book “Discours de la methode pour bien conduire sa raison et chercher la verite dans la sciences,” published in 1637 (which translates as “Discourse on the method of rightly conducting the reason and seeking truth in science”) that he considered how to systematically doubt knowledge. Descartes’ re-examination of accepted knowledge was in part a re-examination of geometry. In his search for precision and logic he related components of a geometry figure to two (2) straight lines, what today are called the x and y axes, or the x and y coordinates. This two-dimensional plane is known as the Cartesian plane (Anglin, 1994).

While Descartes’ name is associated with the Cartesian plane, the development of a co-ordinate system can be traced back to ancient Egypt, where the idea of a coordinate system was used in the laying out of towns and lands by Egyptian surveyors. From these the Romans acquired the concept of organizing districts. These districts were designated in hieroglyphics by a symbol derived from a grid still used in surveying land today (Smith, 1958).

References

- Anglin. W.S. (1994). *Mathematics: A concise history and philosophy*. New York, NY: Springer Verlag.
 Smith. D.E. (1958). *History of mathematics, Vol. II*. New York, NY: Dover Publications.