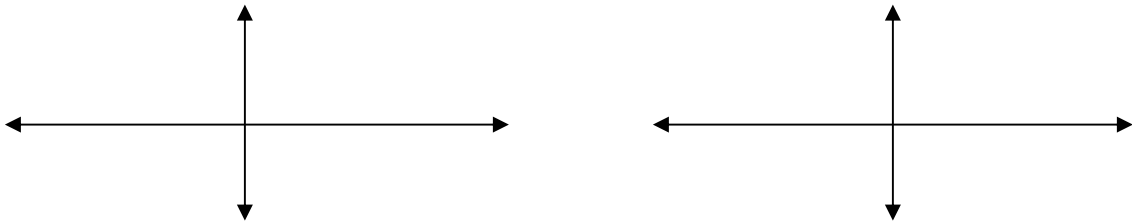
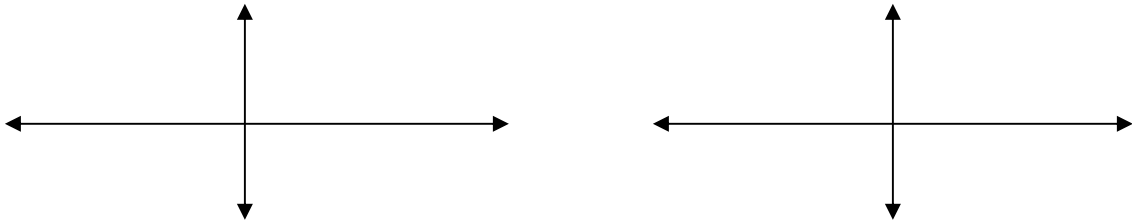


1. The domain of sine is _____ and the range of sine is _____
2. The domain of cosine is _____ and the range of cosine is _____
3. The domain of tangent is _____ and the range of tangent is _____
4. The domain of $\ln x$ is _____ and the range of $\ln x$ is _____
5. The domain of e^x is _____ and the range of e^x is _____
6. Sine is an odd function, so if $\sin \theta = .8$ then $\sin(-\theta) =$ _____ .
7. Graph $y = \ln x$ on the left and $y = e^x$ on the right.



8. Graph $y = \sin x$ on the left and $y = \cos x$ on the right.

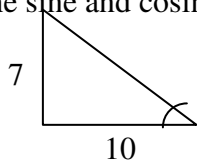


9. You deposit \$1,000 in a fund that pays 6 % interest compounded yearly. How much money will you have in 20 years?
10. How long before your money doubles?

11. Solve $\ln x = 5700$ for x .

12. solve $\left(\frac{1}{2}\right)^x = .4$

13. Find the sine and cosine of the angle marked below.



14. Find the radian measure of the angle above.

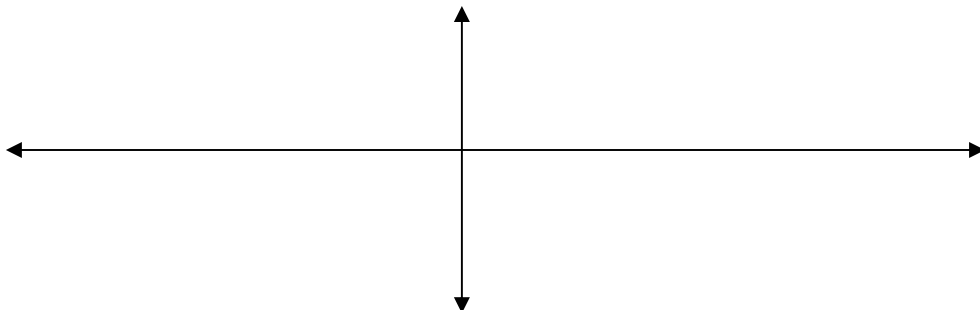
15. Find the other five trigonometric functions of α if $\sin \alpha = \frac{15}{17}$ with α in quadrant I.

16. Find $\sin 2\alpha$ for the same α in number 15. THE ANSWER IS NOT $\frac{30}{17}$!

17. Find $\cos 2\alpha$ for the same α .

18. For the function $f(x) = 3\sin(\pi x)$ the period is _____ and the amplitude is _____

19. Graph $y = 3\sin(\pi x)$ Clearly label the axes.



20. Use the substitution $x = 3 \cos \theta$ to rewrite $\sqrt{9 - x^2}$ as a trigonometric function of θ

21. The domain of $\sin^{-1} x$ is _____ and the range is _____

22. The domain of $\cos^{-1} x$ is _____ and the range is _____

23. The domain of $\tan^{-1} x$ is _____ and the range is _____

24. $\sin^{-1} 0 =$ _____, $\cos^{-1} 0 =$ _____

25. $\sin^{-1} \frac{\sqrt{3}}{2} =$ _____, $\cos^{-1} \frac{\sqrt{2}}{2} =$ _____

26. Find $\sin(\tan^{-1} 3)$

27. More generally, find $\sin(\tan^{-1} x)$

28. If $\theta = \cos^{-1} \frac{x}{4}$, what is $\tan \theta$? That is, find $\tan(\cos^{-1} \frac{x}{4})$

29. Solve the triangle with $A = 30^\circ, C = 100^\circ, a = 10$

$A=30$	$a=10$
$B=\underline{\hspace{1cm}}$	$b=\underline{\hspace{1cm}}$
$C=100$	$c=\underline{\hspace{1cm}}$

30. Find the area of that triangle in problem 28.

31. Solve the triangle with $a = 5, b = 8, c = 8$

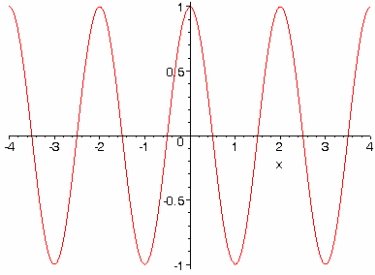
32. Multiply the complex numbers $(2 + 5i)(1 - 3i)$

33. Write $\frac{1}{2} - \frac{\sqrt{3}}{2}i$ in trigonometric form.

34. Using your answer above, find $\left(\frac{1}{2} - \frac{\sqrt{3}}{2}i\right)^3$ and rewrite in standard form.

35. Find the four fourth roots of 1. That is, solve $x^4 = 1$

36. For the function graphed below, find the amplitude and period.



Amplitude = _____, Period = _____

37. Using your answer above, give a good guess as to what this function is.

38. Have a good holiday!