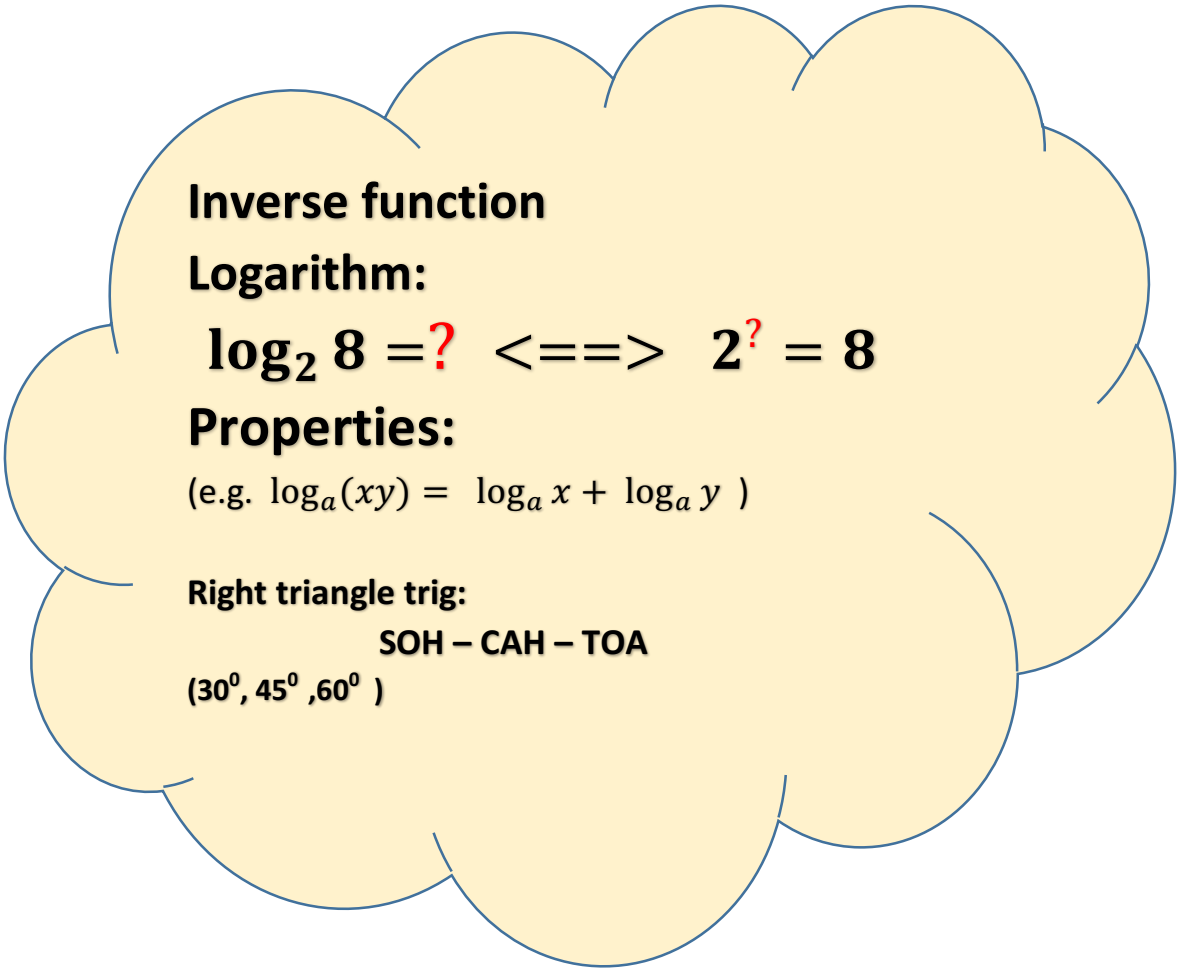
Unit 12: Inverse, Exponents and Logarithms

(Chapter 12, page 514)

Chapter epilogue.



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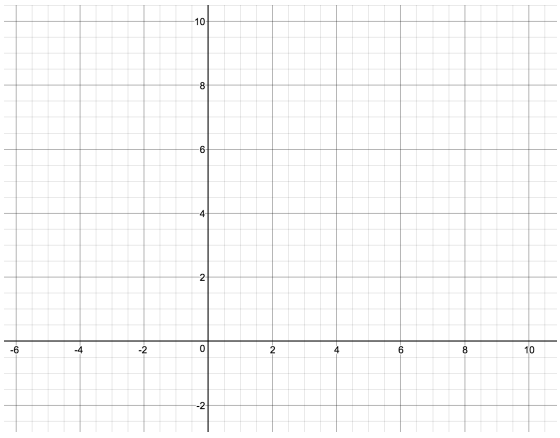
☐	Inverse function Notation : "inverse of $f(x)$" $= f^{-1}(x)$	Definition Page 518
☐	We mainly discovered through exploration. Three main aspects of describing a function, and how the inverse function is expressed there: 1. Table values - flipping the _____. 2. Graph – Reflection _____. 3. Algebraic expression – Three step process for deriving the inverse.	
☐	Domain and Range of inverse are equal to the _____ and _____ of the original function, respectively.	
☐	In order for a relation to have an inverse function it has to: 1. Be a function : _____ line test. 2. Be a one-to-one function : _____ line test.	
☐	Find the inverse function, using 3 methods (table, graph, algebraic). $f(x) = \sqrt{x-1} + 2$ 	

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☐	**Logarithms**	
☐	$\log_2 8 = ?$ ==> $2^? = 8$ Exponential function: $2^x = 8$	
☐	Properties: $a^{\log_a(x)} =$ _____ $\log_a(a^x) =$ _____ $\log_a(1) =$ _____ ---- Examples:	Theorem 12-3
☐	$\log_a(x \cdot y) =$ _____ ---- Example: $\log_a\left(\frac{x}{y}\right) =$ _____ ---- Example: $\log_a(x^p) =$ _____ ---- Example:	Theorem 12-4,5,6

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	$\log_b M =$ ——————— ---- Examples:	Theorem 12-7
☐	**Common logarithms**: When the base is 10. Just omit the base. $\log(x) \;=\;$ _____ **Natural logarithm** Page 550: $\boldsymbol{e} =$ _____ $\log_e(x) \;=\;$ _____	
☐	Solve: $3^{x+5} = 81$	
☐	Solve (you will need a calculator): $3^{x+5} = 64$	

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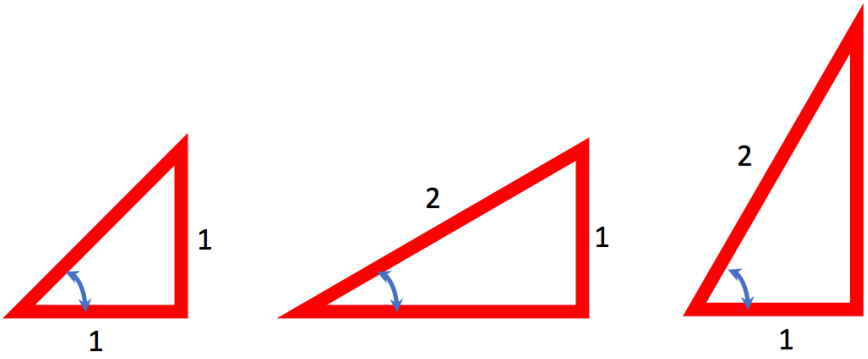
☐ SOH-CAH-TOA

Means: Sine = ; Cosine= ; Tangent=



For each of the triangles, complete the following table:

Angle measure	45°	30°	60°
Adjacent	1		1
Opposite	1	1	
Hypotenuse		2	2
sin(angle)			
cos(angle)			
tan(angle)			

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