

Part 1: Refer to p.518-519 in your textbook (Neslon Advanced Functions).

- (1) On your own, consider the four graphs and the eight possible equations. Record your best guess matching each graph to an equation. Educated guesses only, please! DO NOT choose at random. Graphs of all parent functions are included on the back of this page for your reference.

Graph #1	Graph #2	Graph #3	Graph #4

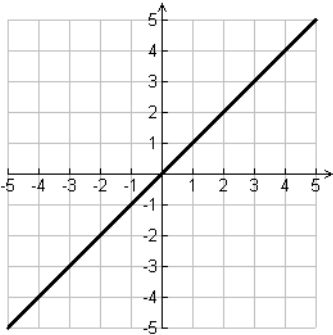
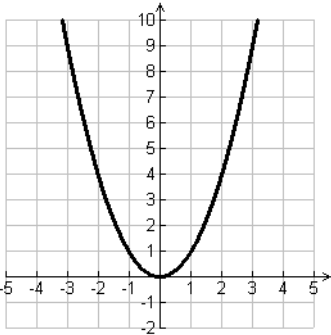
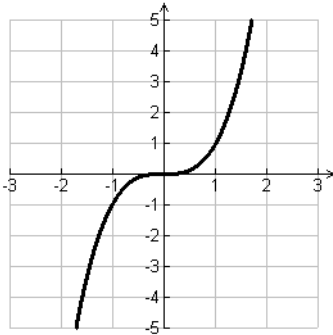
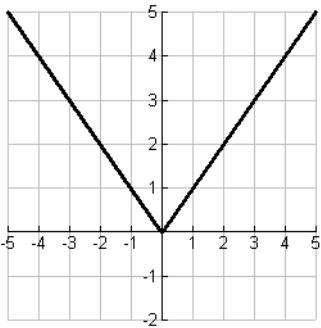
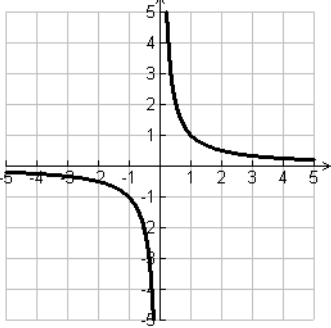
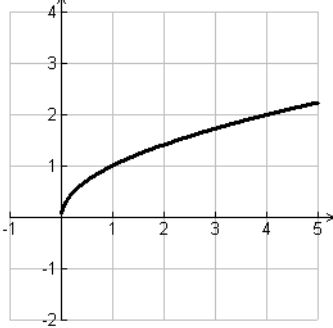
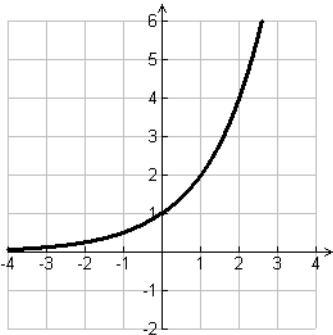
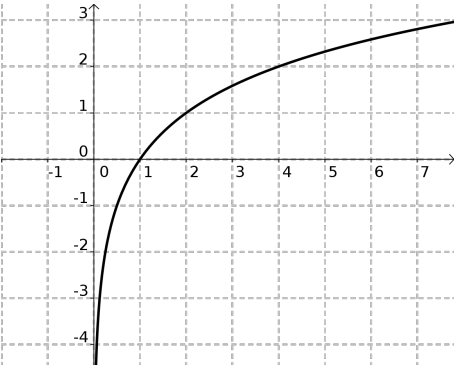
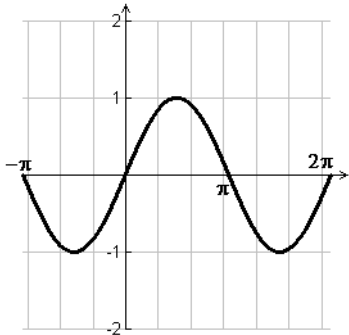
- (2) In pairs, complete parts B-J on p.518-519. Space for F is provided.

Graph # 1	Graph #2
Graph #3	Graph #4

Part 2: Create your own combinations of functions.

- (3) Using graphing technology, continue to experiment with combinations of the functions using arithmetic operations (i.e., add, subtract, multiply, and divide). Start with just the parent functions, but then you may wish to add simple transformations (particularly horizontal stretches & compressions of sinusoidal, which is usually necessary to get the scale to work).
- (4) Using the blank graphs provided, sketch some of your combinations. Try to include some simple combinations and some challenging ones. Make note of the equations on a **separate page**.

- (5) In the provided space, record possible equations for your graphs. There is room for more equations than graphs. Try to include some reasonable but incorrect equations along with the correct ones.
- (6) Trade your graphs with other groups and try to match equations to graphs. Check your answers with graphing technology or by asking the other group.

Linear: $y=x$	Quadratic: $y=x^2$	Cubic: $y=x^3$
		
Absolute Value: $y= x $	Reciprocal: $y=\frac{1}{x}$	Radical: $y=\sqrt{x}$
		
Exponential: $y=b^x$	Logarithmic: $y=\log_b x$	Sinusoidal: $y=\sin x$
		

Assigned Work: p.520 # 1, 2