

Before beginning a study of Calculus, you should have studied the topics of algebra, geometry, trigonometry, analytic geometry, and elementary functions. You should have a working understanding of functions such as linear, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, and piecewise defined functions. This includes the properties, graphs, and algebraic manipulations of these functions. You should be familiar with the following vocabulary of functions: domain, range, odd and even functions, periodic, symmetry, zeros, intercepts, and more. Also, you MUST know the values of the trig functions at the critical points around the unit circle, without needing to sketch the entire circle!

You are expected to have the basic supplies of mathematics at hand... pencil, paper, graph paper, straightedge, a graphing calculator, and at least occasional access to the internet.

You are certainly welcome to work on this packet at any time. I would recommend, however, that you visit this packet to work your final solutions, so that the review is fresh in your mind as you return to school in August. We will begin our year with a day or two to discuss this packet, and then . Also, the packet with your detailed work will be collected for a grade.

The websites below may be helpful as you review each topic. You may want to bookmark them, as they will also be helpful throughout the school year.

<http://tutorial.math.lamar.edu>

<http://www.purplemath.com/modules/index.htm>

<http://www.clarku.edu/~djoyce/trig/>

<http://home.earthlink.net/~djbach/precalc.html>

<http://www.mecca.org/%7Ehalfacre/MATH/pfirstreview.html>

<http://www.wcpss.net/success-series/>

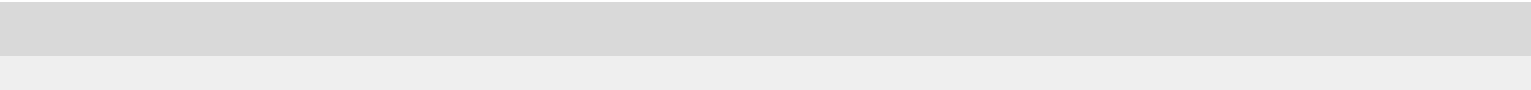
[http://college.hmco.com/mathematics/larson/calculus\\_early/4e/resources.html](http://college.hmco.com/mathematics/larson/calculus_early/4e/resources.html)

<http://teachers.henrico.k12.va.us/math/HCPSAlgebra2/>

Please feel free to contact me directly at my school email:  
I will be checking in at least once a week, and>

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a.     2     2

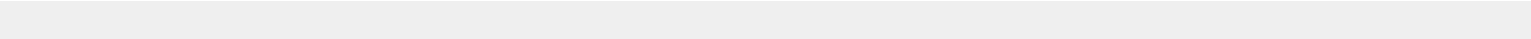
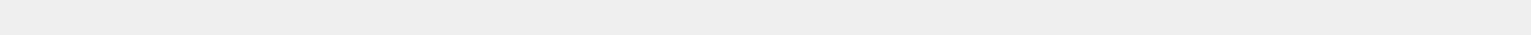
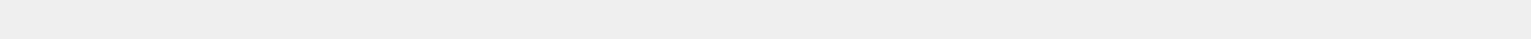
b.     3 2     2 3     3 4

c.     3     3

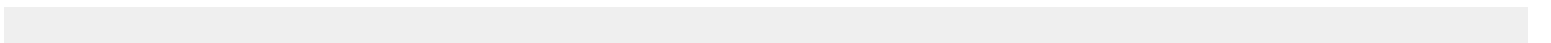
d.     2

e.     2

f.     3







a.	b. $^2$	c. 5
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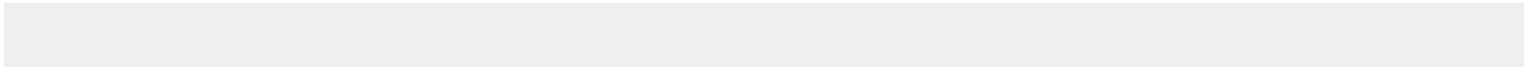
a. $^2$	b. $\frac{-1}{}$	c. $^2$
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d. $^2$	e. $^2$	f. $(+1)(-2) + (+1)(-2) = 0$
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( )

$$(\quad) = 2 + 1 \quad (\quad)$$



a.	b.	c. $^2$
d.	e. $^2$	f. $+3 \quad 2+1$

a.	b.	c. $(+2) - (-5) = 3$
d. $3(-1) = 5 - 4$	e. $(5+1) = (2+3) + 2$	f. $5 \quad 5$

a. $^2$	b. $^2 \quad 3$

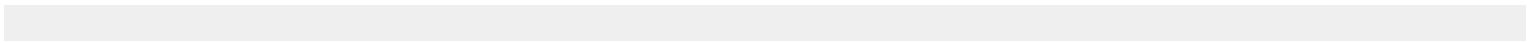
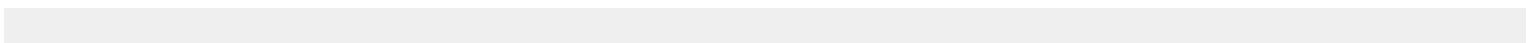
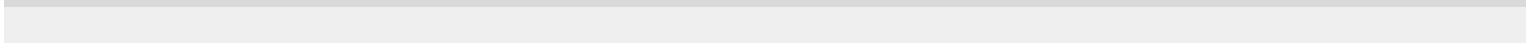
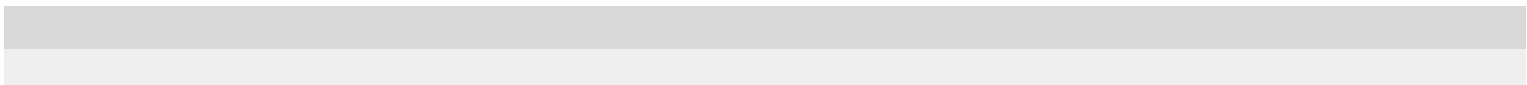


c.

d.  $\frac{-3}{-1}$   $\frac{4}{+8}$

a. slope = 2, through (3,4)

b. thru (1, -3) and (-5, 2)



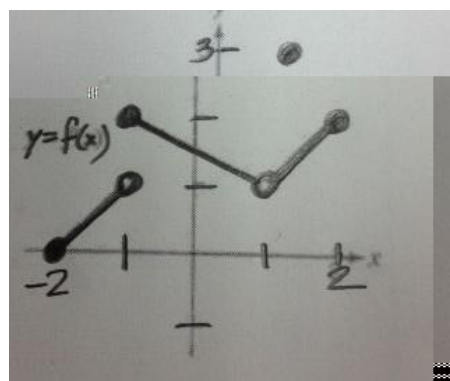
c. Devon is standing 100 feet from the Clock Tower and sees a bird land on the top of the tower. If the angle from Devon to the top of the Clock Tower is close to  $84.6^\circ$ , how tall is the tower?

d. Two girls are standing 100 feet apart. They both see a seagull in the air between them. The angles of elevation from the girls to the bird are  $20^\circ$  and  $45^\circ$ , respectively. How high up is the seagull?

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a. $\lim_{x \rightarrow -} ( )$	b. $\lim_{x \rightarrow +} ( )$	c. $\lim ( )$	d. $(- 1)$
e. $\lim_{x \rightarrow -} ( )$	f. $\lim_{x \rightarrow +} ( )$	g. $\lim ( )$	h. $(0)$
i. $\lim_{x \rightarrow -} ( )$	j. $\lim_{x \rightarrow +} ( )$	k. $\lim ( )$	l. $(1)$



a.  $( ) = 3x + 4x - 2$  on the interval  $[- 1, 5]$

b.  $( ) = -x - 2 + 6$  on the interval  $[- 3, - 1]$

a. A local rental company rents tractors for \$33 for up to 3 hours and an additional \$10 per hour for each hour after that up to a total of 8 hours. State a piecewise function that expresses the company's rental fees for a tractor based on the number of hours it is rented.

b. Solve the following equation for x:  $(9)^x = (5 - 8)^x$ . Show your steps clearly.

c. Suppose that a javelin is thrown with a traj