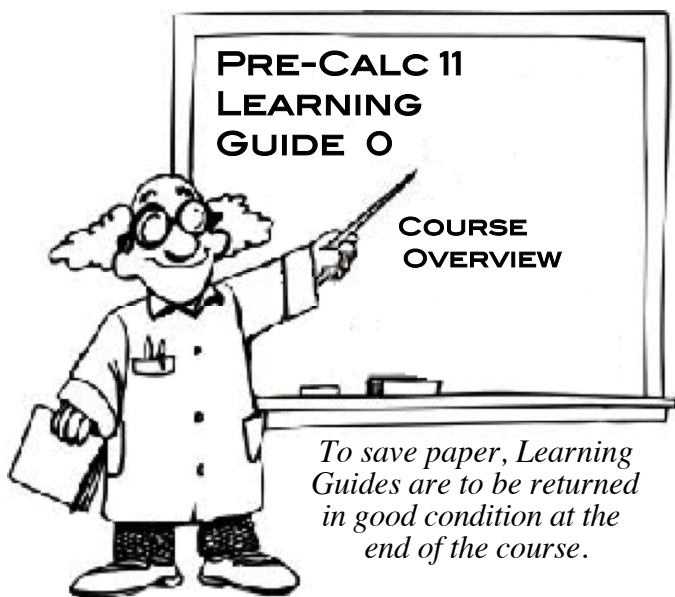


Pre-Calc 11 Learning Guides



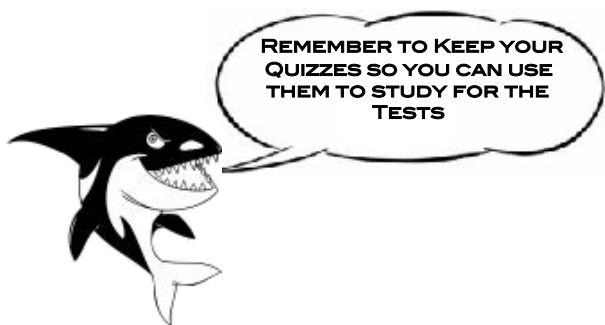
What Am I Going To Learn?

Welcome to Pre-Calculus 11! Our goal at Frances Kelsey is to help you become familiar with the material in Pre-Calculus 11.

- Keep in contact with your marking teacher.
- Work with a partner.
- Work on Math in the Math Work Area!

What Will I Do?

- Get a LG lesson/seminar
- Do the LG work
- Mark my work.
- Go over any problems with my teacher



What Do I Need To Start?

To complete this Math course you will need:

- Text:** Pre-Calculus 11
(McGraw-Hill Ryerson)
- Worksheets:** See Resource Package
- Equipment:** Graphing calculator
Loose-leaf note book with dividers
Graph Paper
Pencil & eraser

What Do The Guides Look Like?

- How many guides? 18
- What is in the guide?
 - **Reading assignments** (pre-learning)
 - **Exercises** -
organized by **A/B/C** levels of difficulty
to check your skills and understanding
A = Practise **B = Apply**
C = Extend

What Should My Binder Look Like?

- Marks** Keep track of your scores in agenda
- Notes** Keep all notes and LG overviews.
- Practice** Keep this section for future reference and study.
- Quizzes** Keep to review for Unit Tests.
- Glossary** A list of new terms and definitions.

What Do The Quiz/Tests Look Like?

Number of questions for:

Quiz		Test
10	Multiple Choice	20
3	Short Answer	6
1	Solve and Describe	2

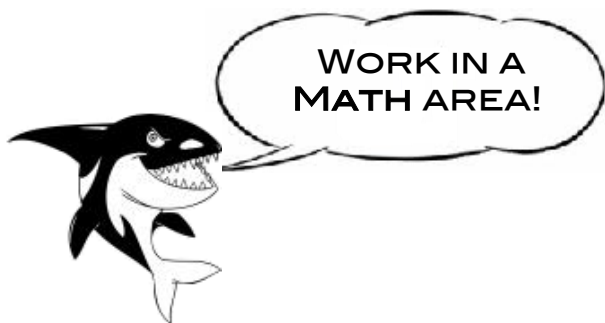
Pre-Calc 11 Learning Guides

How Is The Course Weight?

80%	LG Tests
20%	LG #9 & 18 Mid-Term & Final Exam

How Are The Guides Weighted?

0%	QUIZ [formative] LG's 1, 3, 5, 7, 10, 12, 14, 16
8 @10%	TEST [summative] LG's 2, 4, 6, 8, 9, 11, 13, 15, 17, 18



How Do I Get Test Permission?

- attending the LG seminar
- taking notes on the LG
- attending and working in flex blocks
- doing the work in the LG and -marking it
- doing the review package questions,
- studying
- get green slip signed

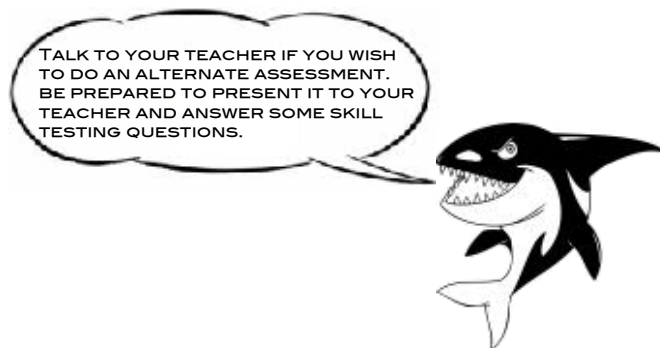


How Else can I Show What I Know?

All alternate forms of assessment must explain **each** Learning Guide Expectations and give an **original example with a detailed step-by-step explanation.**

Some forms of alternate assessment are:

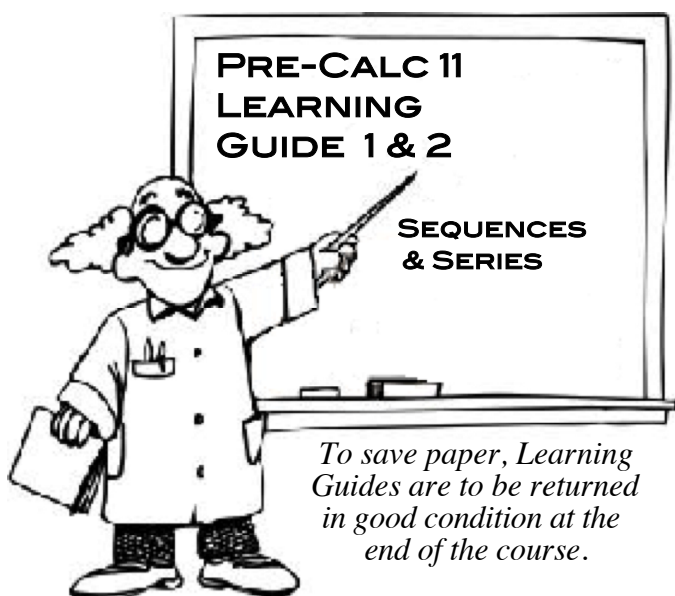
- Make a booklet or poster,
- Produce a video,
- Do an oral presentation
- Make up your own evaluation



How Can I Be Successful In Pre-Calculus 11?

- attend at least 2 regular classes per week
- attend 2 flex blocks per week
- work in the Math Area
- do homework in this course
- finish the course in 5 months
- finish each Learning Guide in one week
- ask for help!
- work with a partner
- 3 rewrites are possible (see your teacher)
- go over test errors with your teacher

Pre-Calc 11 Learning Guides



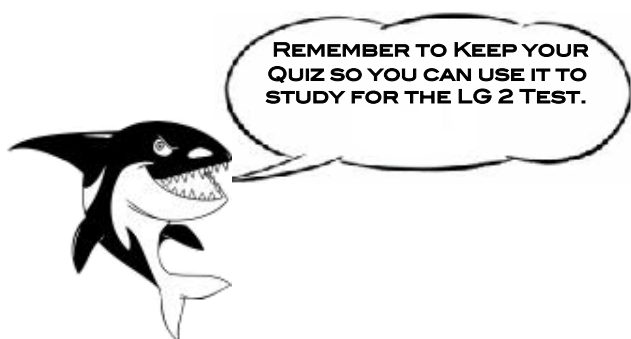
What Are These Guides About?

In these first two guides we will learn to analyze arithmetic sequences and series, as well as geometric sequences and series to solve problems. In addition, we will determine the sum of an infinite geometric series.

What Key Terms Should I Learn?

(These definitions should be added to your Math Journal Glossary)

See the terms found on page 4 in the textbook.



What should I do for LG 1?

1.1 Arithmetic Sequences

Read Pages p. 6-16

Practice Questions

A Practise	B Apply	C Extend
p.16 #1-7	p.17 #8-14 p. 18 16, 17	p.20 #25
25 minutes	30 minutes	5 minutes

1.2 Arithmetic Series

Read Pages p. 22-27

Practice Questions

A	B	C
p.27 #1- 6	p.27 #7 - 12 p.29 14, 15	p.30 #18,19
15 minutes	45 minutes	10 minutes

Am I ready to move on?

Chapter 1 Review (p.66)

Review the concepts in these sections by doing the following **Review** questions:

1.1	1.2
p.66 #1 - 6	p.66 #7 - 11
25 minutes	25 minutes

How Do I Show My Understanding?

Bring your marked guide work for LG 1 with you when you come to get **QUIZ** permission.



QUIZ TIME!!
{ See your teacher }



Pre-Calc 11 Learning Guides

What should I do
for LG 2?

1.3 Geometric Sequences

Read Pages p. 32-39

Practice Questions

A	B	C
p.39 #1-5	p. 39 #1 – 10 p.43 18,19,20	p.44 #22,23 24
20 minutes	45 minutes	20 minutes

1.4 Geometric Series

Read Pages p. 46-53

Practice Questions

A	B	C
p.53 #1-8	p.54 #9, 10 11,13	p.56 #16-19
20 minutes	20 minutes	20 minutes

1.5 Infinite Geometric Series

Read Pages p. 58-63

Practice Questions

A	B	C
p.63 #1 - 5	p.63 #9 - 12 p.64 15,16,18	p.64 #19,20
20 minutes	40 minutes	20 minutes

Am I ready to move on?

Chapter 1 Review (p.67)

Review the concepts in these sections by doing the following **Review** questions:

1.3	1.4	1.5
p.67 #12-15	p.67 #16-18	p.68 #19-22
20 minutes	15 minutes	15 minutes

How Do I Show My Understanding?

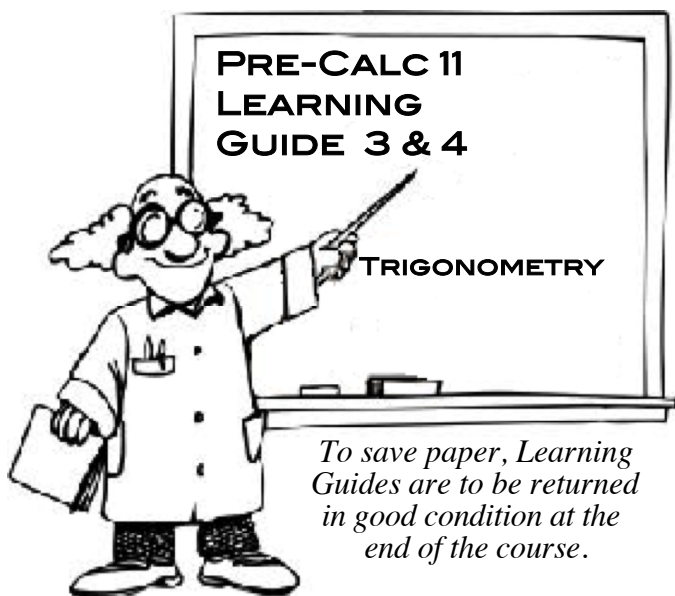
Bring your marked guide work for LG 2 with you when you come to get **TEST** permission.



TEST TIME!!
{ do in Testing Centre }



Pre-Calc 11 Learning Guides



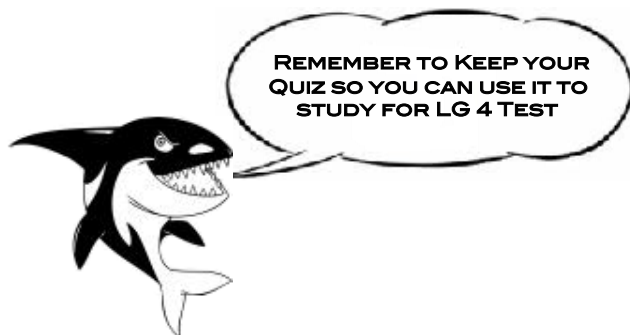
What Are These Guides About?

In these two guides we will learn an understanding of angles in standard position [0° to 360°], and then apply this to solve problems using the three trigonometric ratios, the sine law, the cosine law, and the ambiguous case.

What New Words Should I Learn?

(These definitions should be added to your Math Journal Glossary)

See the terms found on page 72 in the textbook.



What should I do for LG 3?

2.1 Angles in Standard Position

Read Pages p. 74-82

Practice Questions

A Check	B Apply	C Extend
p.83 #1 - 8	p.84 #9 - 11 13, 17	p.86 #20
20 minutes	30 minutes	10 minutes

2.2 Trig. Ratios of Any Angle

Read Pages p. 88-95

Practice Questions

A	B	C
p.96 #1 - 11	p.97 #12 - 18	p.98 #22, 25
25 minutes	35 minutes	10 minutes

Am I ready to move on?

Chapter 2 Review (p.126)

Review the concepts in these sections by doing the following **Review** questions:

2.1	2.2
p.126 #1 - 5	p.127 #6 - 10
25 minutes	25 minutes

How Do I Show My Understanding?

Bring your marked guide work for LG 3 with you when you come to get **QUIZ** permission.



QUIZ TIME!!
{ See your teacher }



Pre-Calc 11 Learning Guides

**What should I do
for LG 4?**

2.3 The Sine Law

Read Pages p. 100-107

Practice Questions

A	B	C
p.108 #1 - 8	p. 109 #10-14, 18	p.111 #21,22
30 minutes	45 minutes	10 minutes

2.4 The Cosine Law

Read Pages p. 114-119

Practice Questions

A	B	C
p.119 #1 - 4	p.120 #5, 6 10, 15 19, 20	p.123 #23,25
20 minutes	40 minutes	20 minutes

Am I ready to move on?

Chapter 2 Review (p.127)

Review the concepts in these sections by doing the following **Review** questions:

2.3	2.4
p.127 #11-17	p.128 #18-24
25 minutes	25 minutes

How Do I Show My Understanding?

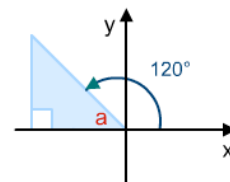
Bring your marked guide work for LG 4 with you when you come to get **TEST** permission.



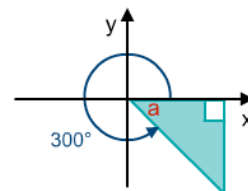
TEST TIME!!
{ do in Testing Centre }



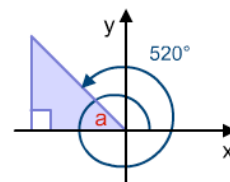
When $\theta = 120^\circ$, $a = 180 - 120 = 60^\circ$



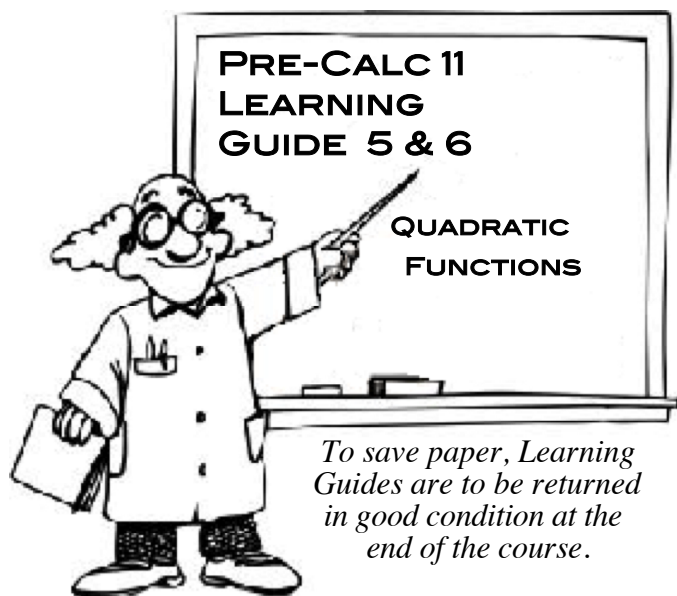
When $\theta = 300^\circ$, $a = 360 - 300 = 60^\circ$



When $\theta = 520^\circ$, $a = 540^\circ - 520^\circ = 20^\circ$



Pre-Calc 11 Learning Guides



What Are These Guides About?

In this guide we will learn to analyze the aspects of, and to solve problems of quadratic functions in the form $y = (x - p)^2 + q$ and $y = ax^2 + bx + c$. In addition, we will solve problems involving quadratic equations.

What Key Terms Should I Learn?

(These definitions should be added to your Math Journal Glossary)

See the terms found on page 140 in the textbook.

What should I do for LG 5?

3.1 Quadratic Functions in Vertex Form

Read Pages p. 142-156

Practice Questions

A Practise	B Apply	C Extend
p.157 #1-9	p.158 #10, 11 p.159 13a,15, p.161 20,21	p.161 #22
20 minutes	35 minutes	5 minutes

3.2 Quadratic Functions in Standard Form

Read Pages p. 163-173

Practice Questions

A	B	C
p.174 #1- 9	p.175 #10 - 14 p.178 20 a,b,c	p.179 #24
20 minutes	35 minutes	10 minutes

Am I ready to move on?

Chapter 3 Review (p.198)

Review the concepts in these sections by doing the following **Review** questions

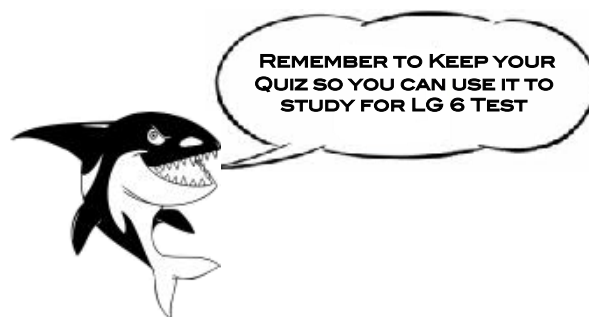
3.1	3.2	
p.198 #1 - 8	p.19 #9 - 13	
20 minutes	20 minutes	

How Do I Show My Understanding?

Bring your marked guide work for LG 5 with you when you come to get **QUIZ** permission.



QUIZ TIME!!
{ See your teacher }



Pre-Calc 11 Learning Guides

What should I do
for LG 6?

3.3 Completing the Square

Read Pages p. 180-192

Practice Questions

A	B	C
p.192 #1- 7	p.193 #9,10a,11 p.194 12,15,18a,b 19a,b	p.196 #25
20 minutes	45 minutes	5 minutes

Am I ready to move on?

Chapter 3 Review (p.198)

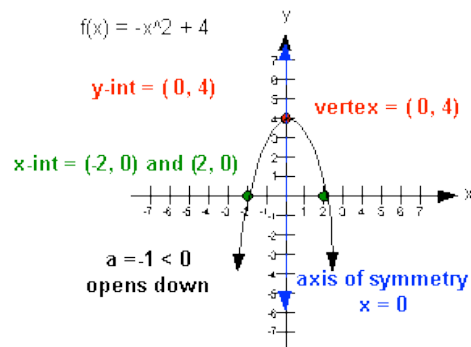
Review the concepts in these sections by doing the following **Review** questions

3.3	PRACTICE TEST
p. 200 #14-17	p. 201 #1-13
20 minutes	35 minutes

How Do I Show My Understanding?

Bring your marked guide work for LG 6 with you when you come to get **TEST** permission.

★ TEST TIME!! ★
{ do in Testing Centre }

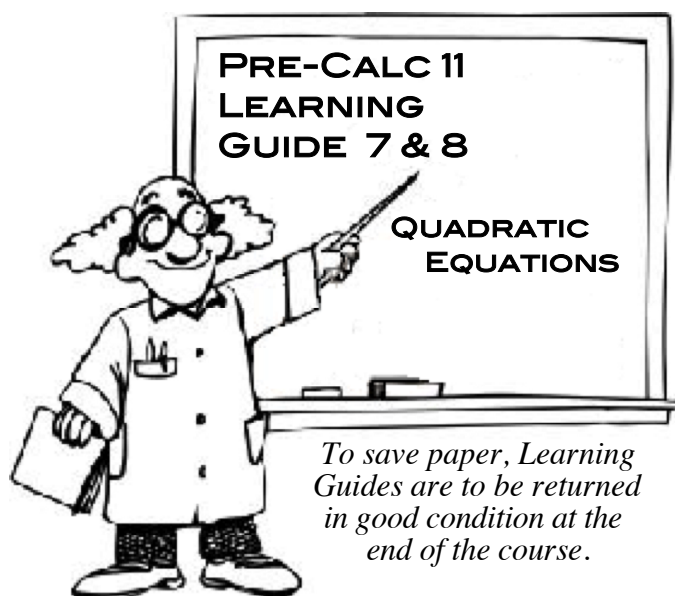


$$f(x) = a(x-h)^2 + k \quad a \neq 0$$

- if $a > 0$, the graph opens upward
- if $a < 0$, the graph opens downward
- the vertex is at (h, k)
- the line of symmetry is $x = h$
- the x-intercepts are where $f(x) = 0$
- the y-intercept is where $x = 0$



Pre-Calc 11 Learning Guides



What Are These Guides About?

In these two guides we will learn to solve quadratic equations graphically, by factoring, by completing the square and the quadratic formula.

What Key Terms Should I Learn?

(These definitions should be added to your Math Journal Glossary)

See the terms found on page 204 in the textbook.

What should I do for LG 7?

4.1 Graphing Quadratic Equations

Read Pages p. 206-214

Practice Questions

A Practise	B Apply	C Extend
p.215 #1-4	p.215 #5, 6 p.216 8,9,10 p.216 11	p.217 #13
15 minutes	35 minutes	5 minutes

4.2 Factoring Quadratic Equations

Read Pages p. 218-229

Practice Questions

A	B	C
p.229 #1- 10	p.230 #11,12,13 p.232 19	p.232 #28
20 minutes	35 minutes	10 minutes

Am I ready to move on?

Chapter 4 Review (p.258)

Review the concepts in these sections by doing the following **Review** questions

4.1	4.2	
p.258 #1 - 5	p.258 #6 - 10	
20 minutes	20 minutes	

How Do I Show My Understanding?

Bring your marked guide work for LG 7 with you when you come to get **QUIZ** permission.



QUIZ TIME!!
{ See your teacher }



REMEMBER TO KEEP YOUR
QUIZ SO YOU CAN USE IT TO
STUDY FOR LG 8 TEST

Pre-Calc 11 Learning Guides

What should I do
for LG 8?

Am I ready to move on?

4.3 Solve Quadratics by Completing the Square

Read Pages p. 234-240

Practice Questions

A	B	C
p.240 #1- 7	p.241 #9,10,12	none
20 minutes	25 minutes	

4.4 The Quadratic Formula

Read Pages p. 244-253

Practice Questions

A	B	C
p.254 #1- 5	p.241 #11, 13, 14	none
20 minutes	25 minutes	

The Quadratic Formula ...

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

It's not that bad

For Quadratic Equations

$$ax^2 + bx + c = 0$$

Chapter 4 Review (p.198)

Review the concepts in these sections by doing the following **Review** questions

4.3	4.4	
p.259 #13-17	p.260 #18 - 20	
20 minutes	20 minutes	

How Do I Show My Understanding?

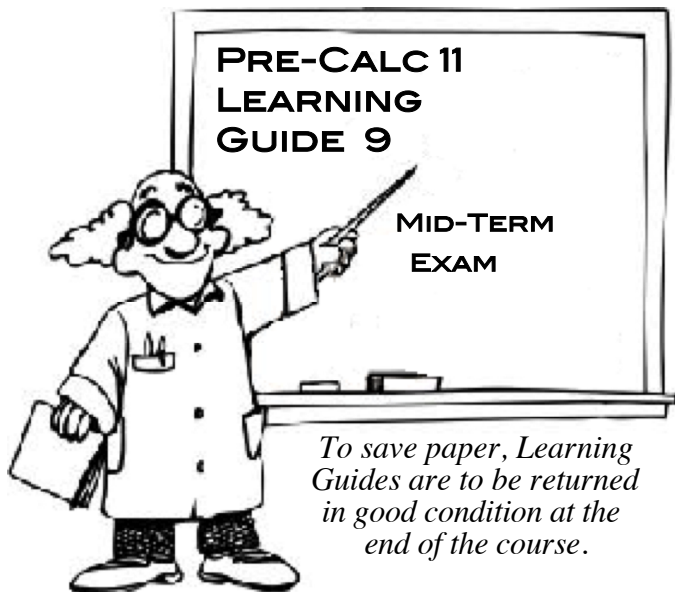
Bring your marked guide work for LG 8 with you when you come to get **TEST** permission.



TEST TIME!!
{ do in Testing Centre }



Pre-Calc 11 Learning Guides



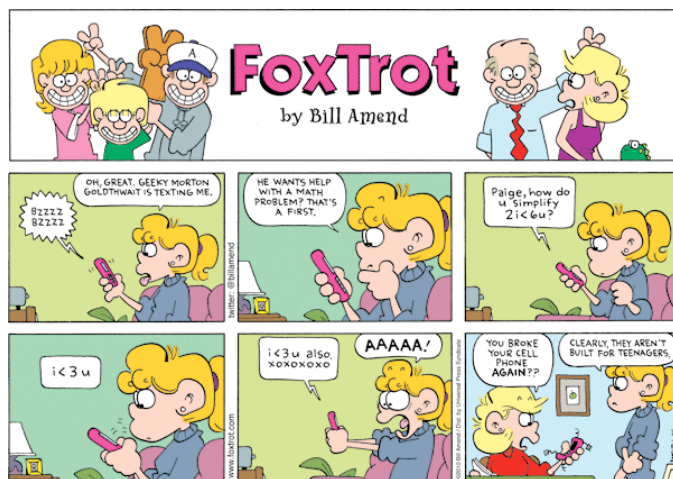
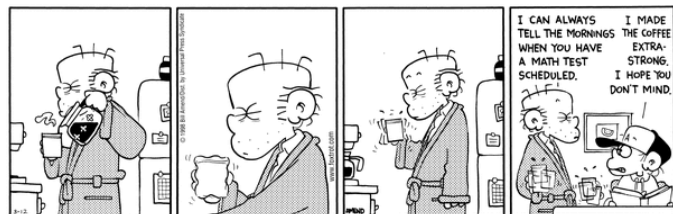
What should I do for LG 9?

- Look over LG 1, 3 Quizzes
- Do **Cumulative Review** pg. 133 #1-17
- Look over LG 5, 7 Quizzes
- Do **Cumulative Review** pg. 264 #1-14

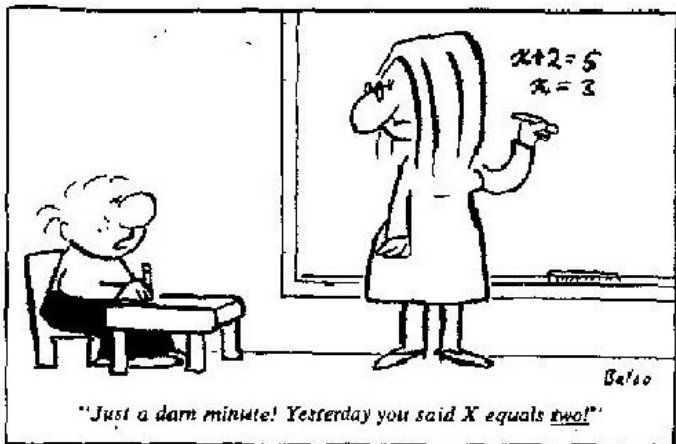
How Do I Show My Understanding?

Bring your marked guide work for LG 9 with you when you come to get **TEST** permission.

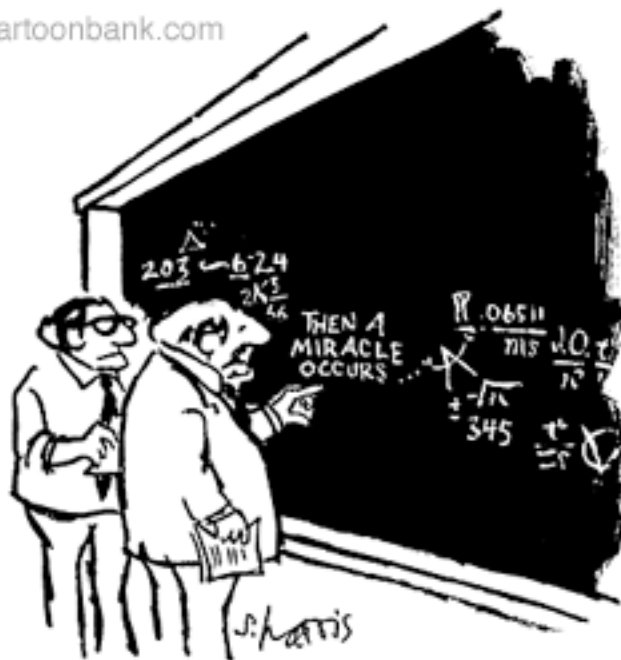
★ **TEST TIME!!** ★
{ do in Testing Centre }



Pre-Calc 11 Learning Guides



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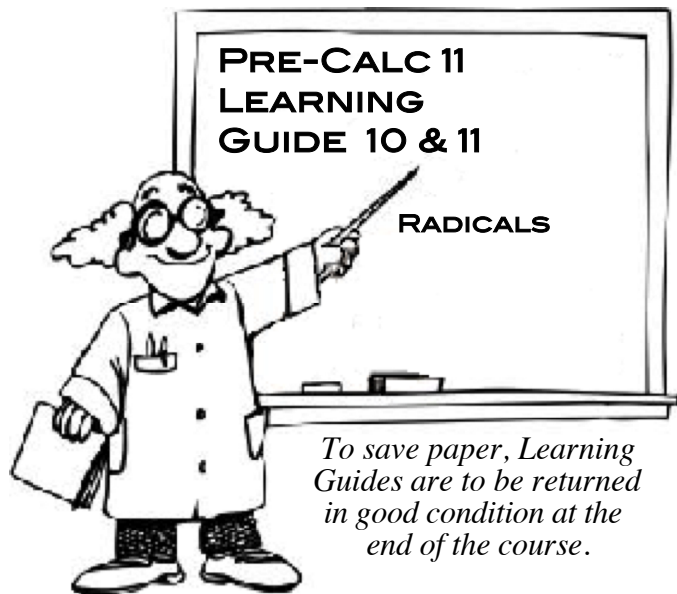


"I think you should be more explicit here in step two."



"Algebra class will be important to you later in life because there's going to be a test six weeks from now."

Pre-Calc 11 Learning Guides



5.2 Multiplying & Dividing Radical Expressions

Read Pages p. 282-289

Practice Questions

A Practise	B Apply	C Extend
p.289 #1-11 a, c	p.289 #14 p.291 17 p.292 21	p.292 #23
15 minutes	20 minutes	5 minutes

Am I ready to move on?

Chapter 5 Review (p.304)

Review the concepts in these sections by doing the following **Review** questions:

5.1	5.2
p.304 #1-3, 6, 7	p.304 #10,11 13-16
20 minutes	20 minutes

What Are These Guides About?

In these two guides we will learn the operations on radicals and radical expressions and how to solve radical equations.

What Key Terms Should I Learn?

(These definitions should be added to your Math Journal Glossary)

See the terms found on page 270 in the textbook.

**What should I do
for LG 10?**

5.1 Working With Radicals

Read Pages p. 272-278

Practice Questions

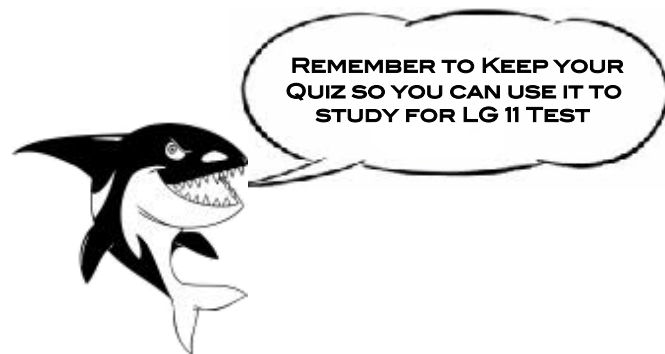
A Practise	B Apply	C Extend
p.278 #1-10 a, c	p.279 #11 p.280 14, 15 p.280 17, 20	none
35 minutes	35 minutes	

How Do I Show My Understanding?

Bring your marked guide work for LG 10 with you when you come to get **QUIZ** permission.



QUIZ TIME!!
{ See your teacher }



Pre-Calc 11 Learning Guides

**What should I do
for LG 11?**

How Do I Show My Understanding?

Bring your marked guide work for LG 11 with you when you come to get **TEST** permission.



TEST TIME!!
{ do in Testing Centre }



5.3 Radical Equations

Read Pages p. 294-300

Practice Questions

A Practise	B Apply	C Extend
p.300 #1-10 a, c	p.301 #11-14 p.302 18	p.303 #23
25 minutes	25 minutes	10 minutes



$$\begin{array}{r} \sqrt{2X-1} + 7 = 4 \\ \underline{-7 \quad -7} \\ (\sqrt{2X-1})^2 = (-3)^2 \\ 2X - 1 = 9 \\ \underline{+1 \quad +1} \\ 2X = 10 \\ \underline{\frac{2X}{2} = \frac{10}{2}} \\ X = 5 \end{array}$$

Am I ready to move on?

Chapter 5 Review (p.304)

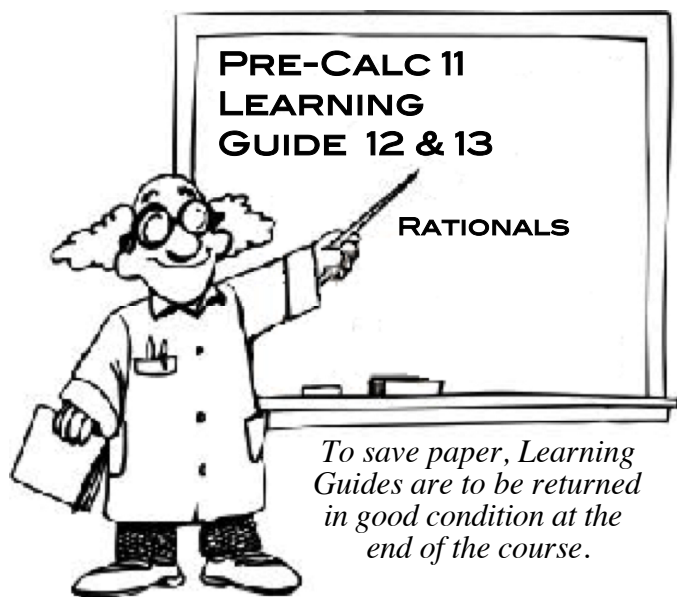
Review the concepts in these sections by doing the following **Review** questions

5.3
p.305 #18, 19 21
20 minutes

$$\sqrt{AB} = \sqrt{A}\sqrt{B}$$

$$\sqrt{\frac{A}{B}} = \frac{\sqrt{A}}{\sqrt{B}}$$

Pre-Calc 11 Learning Guides



What Are These Guides About?

In these two guides we will learn to determine equivalent forms of rational expressions, perform operations with rational expressions and solve problems involving rational equations.

What Key Terms Should I Learn?

(These definitions should be added to your Math Journal Glossary)

See the terms found on page 308 in the textbook.

**What should I do
for LG 12?**

6.1 Rational Expressions

Read Pages p. 310-317

Practice Questions

A Practise	B Apply	C Extend
p.317 #1-8 a, c, e	p.318 #9, 13 p.280 14, 15 p.280 20, 22	p. 320 #26
35 minutes	35 minutes	

6.2 Multiplying & Dividing Rational Expressions

Read Pages p. 322-326

Practice Questions

A Practise	B Apply	C Extend
p.327 #1-9 a, c	p.327 #13-16	none
25 minutes	20 minutes	

Am I ready to move on?

Chapter 6 Review (p.352)

Review the concepts in these sections by doing the following **Review** questions:

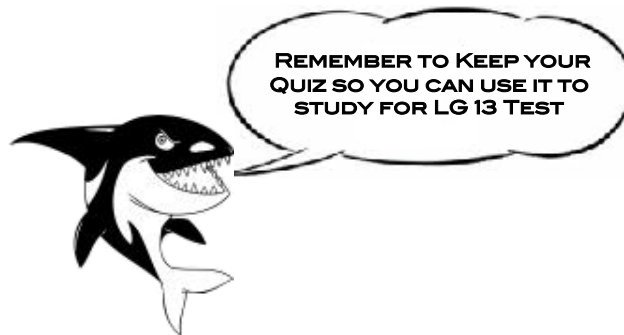
6.1	6.2
p.352 #1-7	p.352 #9 - 12
20 minutes	20 minutes

How Do I Show My Understanding?

Bring your marked guide work for LG 12 with you when you come to get **QUIZ** permission.



QUIZ TIME!!
{ See your teacher }



Pre-Calc 11 Learning Guides

What should I do
for LG 13?

Am I ready to move on?

Chapter 6 Review (p.352)

Review the concepts in these sections by doing the following **Review** questions

6.3	6.4
p.353 #13-15 all	p.354 #20, 21
20 minutes	20 minutes

6.3 Adding & Subtracting Rational Expressions

Read Pages p. 331-335

Practice Questions

A Practise	B Apply	C Extend
p.336 #1-7 a, c, e	p.336 #8, 10 p.337 12	none
35 minutes	25 minutes	

How Do I Show My Understanding?

Bring your marked guide work for LG 13 with you when you come to get **TEST** permission.



TEST TIME!!
{ do in Testing Centre }



6.4 Rational Equations

Read Pages p. 341-347

Practice Questions

A Practise	B Apply	C Extend
p.348 #1-4 a, c	p.348 #6,8,9	p.350 #21
25 minutes	20 minutes	5 minutes

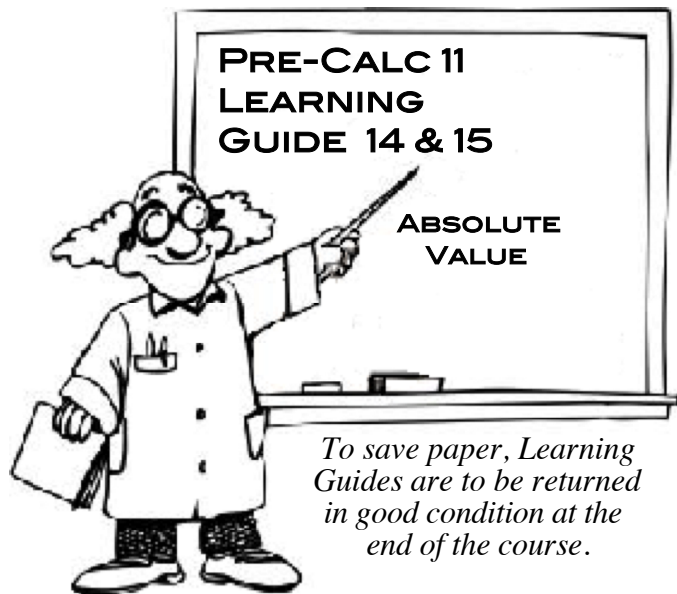


$$\frac{2}{3} \times \frac{9}{8} = \frac{2}{3} \times \frac{(3)(3)}{2(4)} = \frac{\cancel{2}^1(\cancel{3})^1(3)}{\cancel{3}^1(\cancel{2})^1(4)} = \frac{3}{4}$$

$$\begin{aligned} \frac{2}{b-3} \times \frac{(b^2-9)}{4b} &= \frac{2}{b-3} \times \frac{(b-3)(b+3)}{4b} \\ &= \frac{\cancel{2}^1(\cancel{b-3})^1(b+3)}{\cancel{4b}^2_1(\cancel{b-3})^1} \\ &= \frac{b+3}{2b}, \quad b \neq 0, 3 \end{aligned}$$



Pre-Calc 11 Learning Guides



What Are These Guides About?

In these two guides we will learn an understanding of absolute value of real numbers, and graph to analyze absolute functions to solve problems. Also in these guides we will graph and analyze reciprocal functions.

What Key Terms Should I Learn?

(These definitions should be added to your Math Journal Glossary)

See the terms found on page 356 in the textbook.

**What should I do
for LG 14?**

7.1 Absolute Value

Read Pages p. 358 - 363

Practice Questions

A Practise	B Apply	C Extend
p.363 #1-6 all	p.363 #7 & 8 p.365 12&14	p. 365 #15 18i,ii,iii
35 minutes	25 minutes	10 minutes

7.2 Absolute Value Functions

Read Pages p. 368 - 375

Practice Questions

A Practise	B Apply	C Extend
p.375 #1-11 a, c	p. 377 #12-14 a.b.c p. 378 #16	none
25 minutes	20 minutes	

Am I ready to move on?

Chapter 1 Review (p.410)

Review the concepts in these sections by doing the following **Review** questions:

7.1	7.2
p.410 #1-5	p.410 #6,7 abc #8
20 minutes	20 minutes

How Do I Show My Understanding?

Bring your marked guide work for LG 14 with you when you come to get **QUIZ** permission.



QUIZ TIME!!
{ See your teacher }



**REMEMBER TO KEEP YOUR
QUIZ SO YOU CAN USE IT TO
STUDY FOR LG 15 TEST**

Pre-Calc 11 Learning Guides

What should I do
for LG 15?

7.3 Absolute Value Equations

Read Pages p. 380-388

Practice Questions

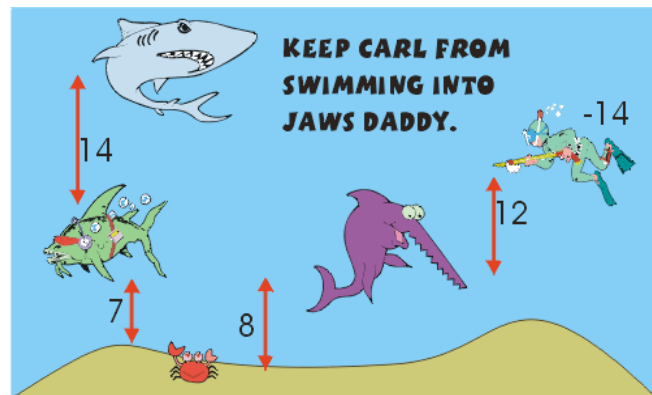
A	B	C
p.389 #1- 5 abc #6 b,e	p.389 #7,9,11 p.390 #15	p.391 #20, 22
20 minutes	25 minutes	15 minutes

7.4 Reciprocal Functions

Read Pages p. 392-403

Practice Questions

A	B	C
p.403 #1- 9 a, c	p.406 #10, 12, 13	none
20 minutes	25 minutes	



Am I ready to move on?

Chapter 7 Review (p.410)

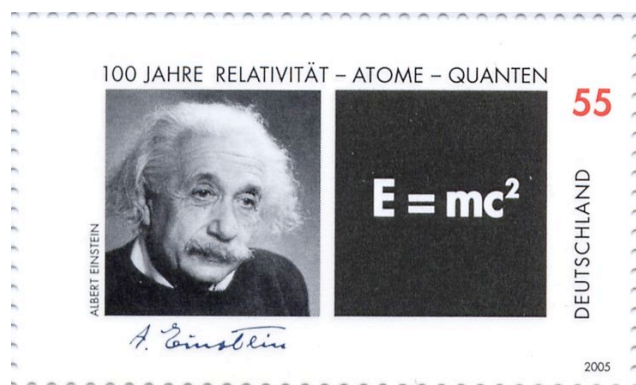
Review the concepts in these sections by doing the following **Review** questions

7.3	7.4
p.411 #11-13	p.412 #15-18
20 minutes	20 minutes

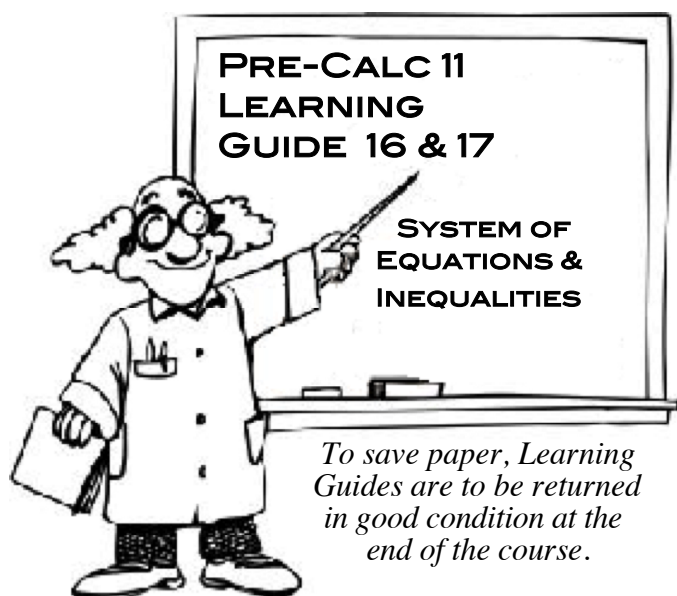
How Do I Show My Understanding?

Bring your marked guide work for LG 15 with you when you come to get **TEST** permission.

★ **TEST TIME!!** ★
{ do in Testing Centre }



Pre-Calc 11 Learning Guides



What Are These Guides About?

In these two guides we will learn to solve algebraically and graphically problems that involve systems of linear-quadratic, quadratic-quadratic equations and inequalities.

What Key Terms Should I Learn?

(These definitions should be added to your Math Journal Glossary)

See the terms found on page 422 and 462 in the textbook.

**What should I do
for LG 16?**

8.1 Solving Systems of Equations Graphically

Read Pages p. 424-434

Practice Questions

A Practise	B Apply	C Extend
p.435 #2 - 5 a, c, e	p.436 #6 - 10 p.438 14a	p. 439 #17 a, b
15 minutes	20 minutes	5 minutes

8.2 Solving Systems of Equations Algebraically

Read Pages p. 440 - 451

Practice Questions

A Practise	B Apply	C Extend
p.451 #1-5 all	p.452 #8-10 p.453 12 abc 13,16,17	p.455 #20
25 minutes	20 minutes	5 minutes

Am I ready to move on?

Chapter 8 Review (p.457)

Review the concepts in these sections by doing the following **Review** questions:

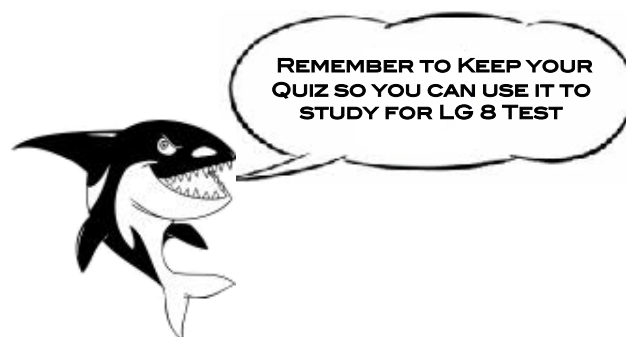
8.1	8.2
p.457 #1,3,5 7 a,b	p.458 #8-11
20 minutes	20 minutes

How Do I Show My Understanding?

Bring your marked guide work for LG 7 with you when you come to get **QUIZ** permission.



QUIZ TIME!!
{ See your teacher }



Pre-Calc 11 Learning Guides

What should I do
for LG 17?

9.1 Linear Inequalities in Two Variables

Read Pages p. 464-471

Practice Questions

A	B	C
p.472 #1- 9	p.473 #11 abc 13, 15	p.474 #17
30 minutes	20 minutes	5 minutes

9.2 Quadratic Inequalities in One Variable

Read Pages p. 476-484

Practice Questions

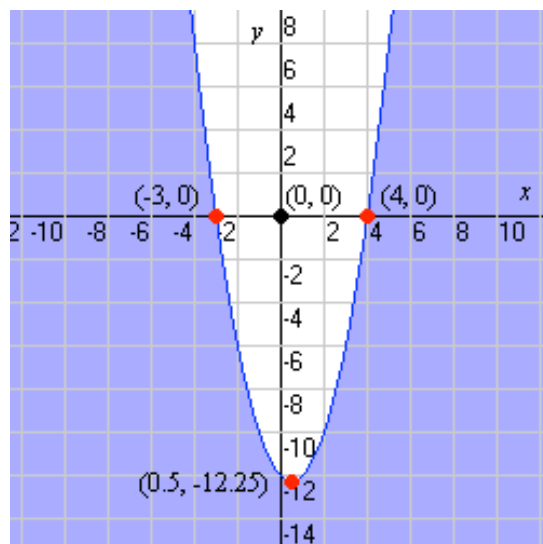
A	B	C
p.484 #1- 9	p.486 #12, 13	p.474 #17 abc
20 minutes	15 minutes	5 minutes

9.3 Quadratic Inequalities in Two Variables

Read Pages p. 488-496

Practice Questions

A	B	C
p.496 #1- 8	p.498 #9, 11, 13	p.499 #14
25 minutes	20 minutes	5 minutes



Am I ready to move on?

Chapter 9 Review (p.501)

Review the concepts in these sections by doing the following **Review** questions

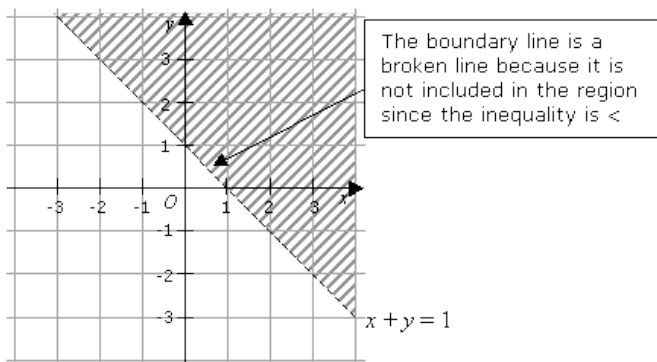
9.1	9.2	9.3
p.501 #1-5	p.502 #6,7,9	p.502 #11-13 16
20 minutes	20 minutes	10 minutes

How Do I Show My Understanding?

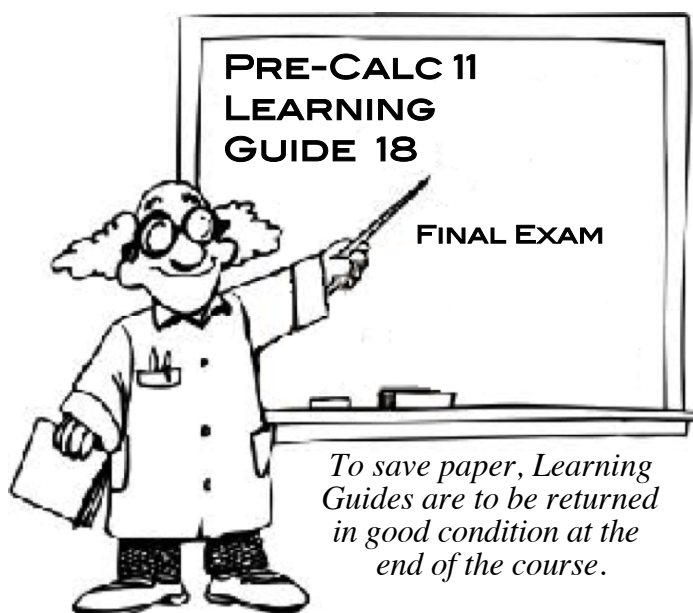
Bring your marked guide work for LG 8 with you when you come to get **TEST** permission.



TEST TIME!!
{ do in Testing Centre }



Pre-Calc 11 Learning Guides



To save paper, Learning Guides are to be returned in good condition at the end of the course.



**See your teacher first
before starting the review.
You may be exempt from
writing the Final Exam.**

**What should I do
for LG 18?**

Cumulative Reviews

Chapter 1 - 2 p. 133

Chapter 3 - 4 p. 133

Chapter 5 - 7 p. 133

Chapter 8 - 9 p. 133

