Foundations & Pre-Calculus 10 Learning Guide Package

Welcome to Foundations & Pre-Calculus 10

Our goal at Frances Kelsey is to help you become familiar with the material in Foundations & Pre-Calc.10.

- Keep in contact with your marking teacher.

- Work with a partner.

- Work on Math in the Math Work Area!

Steps for Success:

1 READ THROUGH
Before each math class be sure to read through the pages listed in the Learning Guide.

2 SIT THROUGH
During designated math classes be sure to attend and listen to the seminar. Ask Questions

3 WORK THROUGH
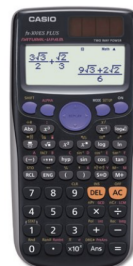Work through the listed questions, worksheet and quizzes. Be sure to self correct your work.

YOU NEED:

TEXTBOOK

You can sign out a Textbook from the Science Kiosk.

PEARSON
Foundations and Pre-calculus
Mathematics 10
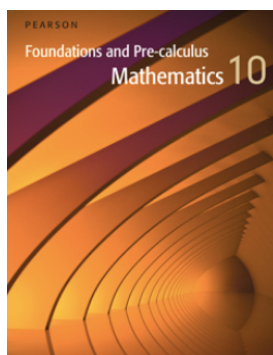
SCIENTIFIC CALCULATOR

LG 0 - COURSE OUTLINE

Listed below are the topics of the 18 Learning Guides that are taught.

TOPICS:

- *LG 1/2*   *Financial Literacy*
- *LG 3/4*   *Trigonometry*
- *LG 5*   *Arithmetic Sequences & Series*
- *LG 6/7*   *Factors & Products*
- *LG 8/9*   *Roots & Powers*
- *LG 10/11*   *Relations & Functions*
- *LG 12/13/14*   *Linear Functions*
- *LG 15/16*   *System of Equations*
- *LG 17*   *Logic*
- *LG 18*   *Final Exam Review & Test*

"Don't worry about the difficulties in mathematics; I can assure you that mine are still greater" A. Einstein

---

HOW TO BE SUCCESSFUL:

- *Arrive to class prepared and on time.*
- *Work with a partner.*
- *Ask for help as soon as you need it. Don't put off to another day!!*
- *Be an active learner. Participate in discussions and activities.*
- *Use Work Blocks and homework time to complete assignments.*
- *Study/review for tests.*
- *Stay up to date with the course. Mandatory test dates are in effect.*

     Come for <u>Math Help</u> ~ TBA _____

EVALUATION
- Assignments / Guide Work 20%
- Tests / Quizzes 80%

Procrastination makes easy things hard, hard things harder. – *Mason Cooley*

LG 1 & 2 − Financial Literacy

What will I have to do for LG 1?

1. **Gross and Net Pay**

   Listen: To seminar!

   Do: Activity:
   Reading a Pay Stub

   Do: Worksheet **1** in
   Resource Package

My Company	123 Anystreet, Gainesville, FL 02020			Earnings Statement		
Employee Name						
Social Security No.	Pay Period		Pay Date		Employee #	
XXXX-XX-1234	1/1/2016 - 1/15/2016		1/22/2016		A1233	
Income	Rate	Hours	Current Total	Deductions	Total	YTD Total
Gross Earnings	$14.50	40	$580.00	FICA - Medicare	$3.71	$18.56
				FICA - Social Security	$7.54	$37.70
				Federal Tax	$87.00	$435.00
				State Tax	$23.20	$116.00
YTD Gross	YTD Deductions		YTD Net Pay	Total	Deductions	Net Pay
$2,900.00	$607.26		$2,292.74	$580.00	$121.45	$458.55

2. **Where the Money Goes?**

   Listen: To seminar!

   Do: Worksheet **2** in
   Resource Package

What will I have to do for LG 2?

In Class Activity

Attend: Participate!

Do: Class Activity
"What You Need to Know to
Buy a Car"

Project

Do: Buying a Car

No Test ☺

LG 3 & 4 – Trigonometry

What will I have to do for LG 3?

2.1   **The Tangent Ratio**

Read: P. 70 - 74

☐ **Do:** P. 75   3, 4, 5, 8, 10ac
P. 75   11ab, 13, 15, 19
P. 77   21

☐ **Do:** Worksheet **1** in
Resource Package

2.2   **Using the Tangent Ratio**

Read: P. 78 - 81

☐ **Do:** P. 82   3, 4, 5, 6, 10, 11
P. 83   15

2.4   **Sine & Cosine Ratios**

Read: P. 89 - 94

☐ **Do:** P. 95   4, 5, 7, 9, 10ab,
11, 12, 14

2.5   **Using the Sine & Cosine Ratios**

Read: P. 97 - 100

☐ **Do:** P. 101   3, 4, 5, 6, 7, 12a
P. 102   14

☐ **Do:** Worksheet **2** in
Resource Package
Review

☐ **Do:** P. 103   1, 2, 3a, 4, 5

☐ **Do the LG 3 quiz found in your "Quiz Package" and see your teacher to get it marked.**

"Be sure to keep all of your Quizzes for further review."

What will I have to do for LG 4?

2.6   **Applying the Trigonometric Ratios**

Read: P. 105 - 110

☐ **Do:** P. 111   3, 4, 5, 6abc, 7, 8
10, 11, 12
P. 112   16

2.7   **Solving Problems with More than One Right Triangle**

Read: P. 113 - 117
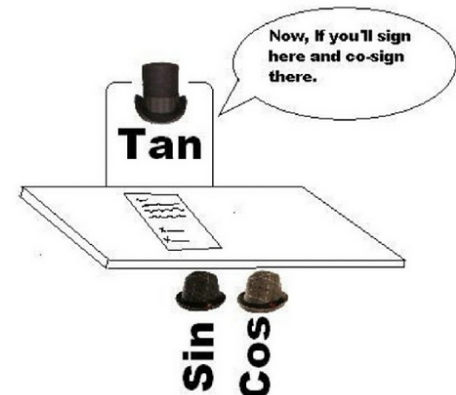
☐ **Do:** P. 118   3abc, 4, 6, 8, 9
11, 13, 14

☐ **Do:** Worksheet **3** in
Resource Package

Review

☐ **Do:** P. 124   1 – 8, 11, 12a, 13, 14
15 – 18, 20 - 23

Go Over Formative Quiz from LG 3
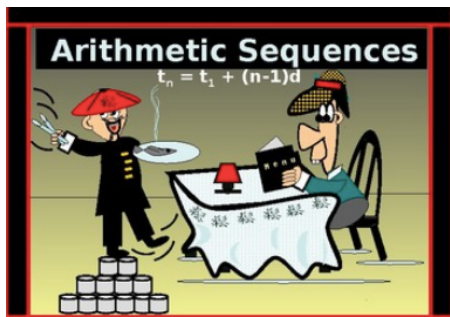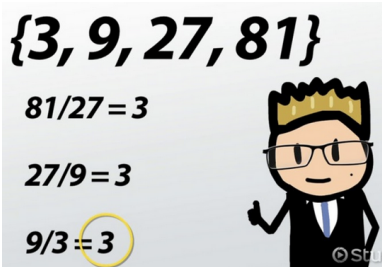
☐ **See your teacher to do the**
LG 3/4 Summative Test

LG 5 − Arithmetic Sequences & Series

What will I have to do for LG 5a?

S.1   **Arithmetic Sequences**

☐ **Do:** Section **1** in
   Resource Package

☐ **Do:** Worksheet **1** in
   Resource Package

$\{3, 9, 27, 81\}$

$81/27 = 3$

$27/9 = 3$

$9/3 = 3$

Arithmetic Sequences
$t_n = t_1 + (n-1)d$

☐ **Do the LG 5 quiz found in your "Quiz Package" and see your teacher to get it marked.**

"Be sure to keep all of your Quizzes for further review."

What will I have to do for LG 5b?

S.2   **Arithmetic Series**

☐ **Do:** Section **2** in
   Resource Package

☐ **Do:** Worksheet **2** in
   Resource Package

S_n **represents the sum of the first** n **terms of a series.**

$S_3 = 3 + 4 + 5$

$S_7 = 3 + 4 + 5 + 6 + 7 + 8 + 9$

Arithmetic Sequences and Series

Go Over Formative Quiz from LG 5

☐ **See your teacher to do the**
   LG 5 Summative Test

LG 6 & 7 − Factors & Products

What will I have to do for LG 6?

3.1 **Factors & Multiples of Whole Numbers**

Read: P. 134 - 139

☐ **Do:** P. 140   3, 4, 5
6ace, 8ace, 9ab, 10ace, 11ac, 19a

☐ **Do:** Worksheet **1** in
Resource Package

3.2 **Perfect Squares, Perfect Cubes, and Their Roots**

Read: P. 142 - 146

☐ **Do:** P. 146   4, 5 (use prime factoring)
P. 147   17a,b

3.7 **Multiplying Polynomials**

Read: P. 182 - 185

☐ **Do:** P. 186   4ac, 5bef, 6a (i, ii, v, vi)
8ac, 9ad, 10ab, 11
13ac, 15adf,
P. 187   18ab, 19ace, 20, 21acd

☐ **Do:** Worksheet **2** in
Resource Package

☐ **Do the LG 6 quiz found in your "Quiz Package" and see your teacher to get it marked.**

"Be sure to keep all of your Quizzes for further review."

What will I have to do for LG 7?

3.3 **Common Factors of a Polynomial**

Read: P. 150 - 154

☐ **Do:** P. 155   5, 6
7ace, 8abd, 9ace (don't use tiles)
10ace, 11, 14, 15, 16abc, 17

3.5 **Polynomials of the Form $x^2 + bx + c$**

Read: P. 159 - 165

☐ **Do:** P. 166   4, 5 (don't use tiles)
6abc, 7b, 8a, 10, 11,
P. 167   13, 14aceg, 15aceg,
17, 19abd, 20ace, 23a

3.6 **Polynomials of the Form $ax^2 + bx + c$**

Read: P. 168 - 176

☐ **Do:** P. 177   5, 6 (don't use tiles), 7, 8,
9ace, 10bce, 12, 13aceg
15aceg, 16, 18abc,
19aceg,20a, 21a, 22a

3.8 **Factoring Special Polynomials**

Read: P. 188 - 193

☐ **Do:** P. 194   4aceg, 5, 6, 7a, 8acf
P. 195   10ace, 11ace, 12, 13,
15a, 18, 19a, 20, 21

☐ **Do:** Worksheet **3** in
Resource Package

Go Over Formative Quiz from LG 6

☐ **See your teacher to do the**
LG 6/7 Summative Test

LG 8 & 9 – Roots & Powers

What will I have to do for LG 8?

4.1 **Estimating Roots**

Read: P. 204 - 206

☐ **Do:** P. 206   1 – 3*, 5, 6
          *use calculator

4.2 **Irrational Numbers**

Read: P. 207 - 210

☐ **Do:** P. 211   3, 4, 6, 7, 8, 11, 12,
          14, 15

4.3 **Mixed & Entire Radicals**

Read: P. 213 - 217

☐ **Do:** P. 218   3, 4, 5, 9, 10acegi,
          11acegi, 12acegi, 14,
          15, 16, 17, 18
      P. 219   21, 22a

☐ **Do:** Worksheet **1** in
      Resource Package

"JAIL BREAK"
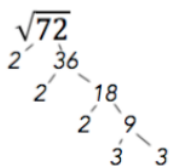
The pair of 2's & 3's partnered -up to break out of jail

The other 2 in the square must stay in jail because it doesn't have a partner to help break out.

☐ **Do the LG 8 quiz found in your "Quiz Package" and see your teacher to get it marked.**

"Be sure to keep all of your Quizzes for further review."

What will I have to do for LG 9?

4.4 **Fractional Exponents and Radicals**

Read: P. 222 - 226

☐ **Do:** P. 227   3*, 4*, 5, 6, 7*,
          *use calculator
          8-11(all), 13-15, 16a
      P. 228   17, 19

4.5 **Negative Exponents and Reciprocals**

Read: P. 229 - 232

☐ **Do:** P. 233   3, 4*, 5, 6, 7, 8*,
          9aceg*, 10
          *use calculator
      P. 234   15, 16

4.6 **Applying the Exponent Laws**

Read: P. 237 - 241

☐ **Do:** P. 241   3 – 8 all
      P. 242   9, 10acef, 11, 13, 14
          15ac, 16, 17
      P. 242   21-23

☐ **Do:** Worksheet **2** in
      Resource Package

Review

☐ **Do:** P. 246   1, 3*, 4, 5, 6-9 all, 11, 12
      P. 247   14, 15ac, 16, 17, 19*,
          21, 22, 24*, 25,
      P. 248   28, 29, 30, 32

Go Over Formative Quiz from LG 8

☐ **See your teacher to do the**
    LG 8/9 Summative Test

LG 10 & 11 − Relations & Functions

What will I have to do for LG 10?

5.1   **Representing Relations**

Read: P. 256 - 261

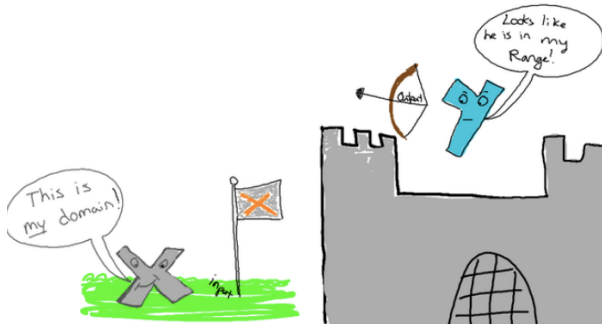☐ **Do:** P. 262   3, 4, 6
          P. 263   13, 14

5.2   **Properties of Functions**

Read: P. 264 - 270

☐ **Do:** P. 270   4, 5, 6, 7, 8, 9a
          P. 272   14, 15, 16, 17, 18, 19
          P. 273   20, 21

☐ **Do:** Worksheet **1** in
          Resource Package

☐ **Do the LG 10 quiz found in your "Quiz Package" and see your teacher to get it marked.**

"Be sure to keep all of your Quizzes for further review."

What will I have to do for LG 11?

5.3   **Interpreting & Sketching Graphs**

Read: P. 276 - 280

☐ **Do:** P. 281   3 - 6
          P. 282   7 - 9, 11, 13, 15
          P. 283   16, 17

5.5   **Graphs of Relations & Functions**

Read: P. 287 - 293

☐ **Do:** P. 294   4 – 7 all, 8, 9
          P. 295   10, 11, 12a, 16, 17, 19
          P. 297   22

☐ **Do:** Worksheet **2** in
          Resource Package

5.6   **Properties of Linear Relations**

Read: P. 300 - 307

☐ **Do:** P. 308   4, 5, 6, 7, 9, 12, 14
          P. 310   16, 17, 18-20 all

5.7   **Interpreting Graphs of Linear Functions**

Read: P. 311 - 318

☐ **Do:** P. 319   4, 5, 6ab (i, iii, iv, v),
                  7, 9, 10, 12, 14, 15a,
                  16, 17a
          P. 323   20

Review

☐ **Do:** P. 326   1 – 7, 9 – 14, 17, 18

Go Over Formative Quiz from LG 10

☐ **See your teacher to do the**
        LG 10/11 Summative Test

LG 12, 13 & 14 − Linear Functions

What will I have to do for LG 12?

6.1 <u>Slope of a Line</u>

Read: P. 332 - 339

Do: P. 339   4 – 9 all
       P. 340   11, 13a (i,ii,iii), 15
       P. 341   17, 22, 23ac, 26ab, 28

6.2 <u>Slopes of Parallel and Perpendicular Lines</u>

Read: P. 344 - 348

Do: P. 349   3 – 6 all, 8bcd, 9ab
       P. 350   10, 11abd, 13, 16, 17
       P. 351   22, 23

Do: Worksheet **1** in
     Resource Package

Do the LG 12 quiz found in your "Quiz Package" and see your teacher to get it marked.

"Be sure to keep all of your Quizzes for further review."

What will I have to do for LG 13/14?

6.4 <u>Slope-Intercept Form of the Equation</u>

Read: P. 357 - 361

Do: P. 362   4 – 6, 7abc, 8, 11
       P. 363   13, 14, 15, 16a, 17,
       P. 364   18 – 21all, 23

6.5 <u>Slope-Point Form of the Equation</u>

Read: P. 365 - 371

Do: P. 372   4 – 9, 11, 12, 14
       P. 374   19abc, 20, 21, 23, 24

Do the LG 13 quiz found in your "Quiz Package" and see your teacher to get it marked.

6.6 <u>General Form of the Equation</u>

Read: P. 377 - 383

Do: P. 384   4 – 9 all, 10abc, 11b,
              12ab, 13ab, 14ab, 16c
       P. 385   18, 22, 23, 24, 26

Do: Worksheet **2** in
     Resource Package

Go Over Formative Quiz from LG 12 & 13

See your teacher to do the
     LG 12 - 14 Summative Test

LG 15 & 16 − Systems of Equations

What will I have to do for LG 15?

7.1 **Developing Systems of Linear Equations**

Read: P. 394 - 400

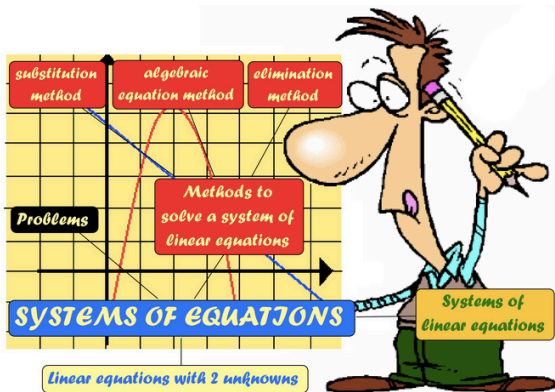☐ **Do:** P. 401   4, 5, 6, 7, 8
P. 402   10, 12, 13

7.2 **Solving a System of Linear Equations Graphically**

Read: P. 403 - 408

☐ **Do:** P. 409   3, 4, 5a (i, ii), 6, 7ab
P. 410   10 – 13 (don't solve)
14a, 16, 17a, 18

Review

☐ **Do:** P. 415   1, 2, 3, 5a, 6a

☐ **Do the LG 15 quiz found in your "Quiz Package" and see your teacher to get it marked.**

"Be sure to keep all of your Quizzes for further review."

What will I have to do for LG 16?

7.4 **Using a Substitution Strategy to Solve a System**

Read: P. 416 - 424

☐ **Do:** P. 425   4, 5, 6a, 7a, 8a, 9a, 11
P. 426   14, 15, 18, 19ac, 22ac,
P. 427   27

7.5 **Using a Elimination Strategy to Solve a System**

Read: P. 428 - 436

☐ **Do:** P. 437   3 – 5, 6cd, 7b, 8, 9,
P. 438   12, 13, 17, 19a, 20

7.6 **Properties of Systems of Linear Equations**

Read: P. 442 - 447

☐ **Do:** P. 448   4 – 7, 9, 10 – 12,
P. 449   14, 15, 17 – 20, 24a

☐ **Do:** Worksheet **1** in
Resource Package

Go Over Formative Quiz from LG 15

☐ **See your teacher to do the**
LG 15/16 Summative Test

LG 17/18 − Logic, Reasoning & Final Exam

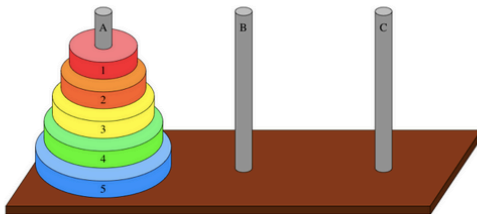## What will I have to do for LG 17?

Logic & Reasoning

Logic will be done at the beginning or end of class for the first 10 weeks. You will work in groups and be evaluated by your participation & effort.
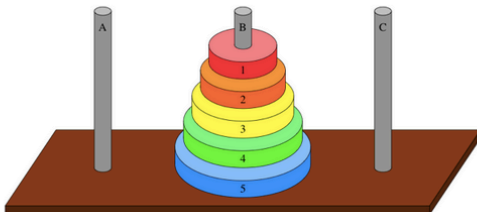
Can you solve this?

🌮 + 🌮 + 🌮 = 60

🌮 + 🌯 + 🌶 = 30

🌯 − 🌶 = 3

🌶 + 🌮 + 🌯 = ?

Tower of Hanoi

Rules: 1. Only 1 disk can move at a time.
2. Each move consists of taking the upper disk from one of the stacks and placing it on top of another stack or empty rod.
3. No larger disk may be placed on top of a smaller disk.

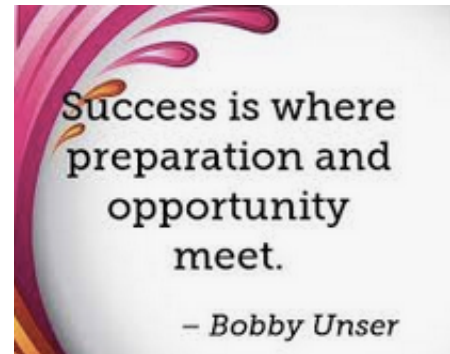The goal is to move all n disks from peg A to peg B:

What will I have to do for LG 18?

Final Exam Prep.

☐ **Do:** Worksheet Final Exam Review in **Resource Package**

Go Over All Formative Quiz from LG 3 - 15

☐ **See your teacher to do the LG 18 Summative Test "Final Exam"**

Success is where preparation and opportunity meet.

− Bobby Unser

LEARNING GUIDE PACKAGE

LEARNING GUIDES

1 - 18

FRANCES KELSEY SCHOOL

FOUNDATIONS & PRE-CALCULUS MATHEMATICS 10

REVISED - JUNE 2019