

MASTERING THE HP-12C

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Institute**

BUSINESS COMPUTER INSTITUTE 1001001110 1110010010

HOW TO SUCCESSFULLY COMPLETE THIS COURSE

THESE INSTRUCTIONS APPLY TO YOU ONLY IF YOU ARE COMPLETING THIS HOME
STUDY COURSE FOR CONTINUING EDUCATION LICENSE RENEWAL CREDIT HOURS

To assure your successful completion and accreditation for having completed this home study course you must follow the instructions below. Once you have completed the entire step, check the box next to the step.

STEP 1-1 ☐ WORKBOOK: Read and listen to Sections I, II, and III of the home study workbook

☐ READING: Read the following pages of your Owners Handbook:

pp. 231 - 237

pp. 16 - 18

pp. 80 - 84

pp. 202 - 205

☐ QUIZ: Take Quiz 1-1 and mail for grading.

STEP 1-2 ☐ WORKBOOK: Read and listen to Sections IV, V, and VI of the home study workbook

☐ READING: Read the following pages of your Owners Handbook:

pp. 188 - 194

pp. 84 - 85

pp. 191 - 192

pp. 19 - 24

pp. 24 - 27

☐ QUIZ: Take Quiz 1-2 and mail for grading.

STEP 1-3 ☐ WORKBOOK: Read and listen to Sections VII, VIII and IX of your home study workbook

☐ READING: Read the following pages of your Owners Handbook:

pp. 36 - 37

pp. 38 - 57

pp. 61 - 64

☐ QUIZ: Take Quiz 1-3 and mail for grading.

STEP 2-1 ☐ WORKBOOK: Read and listen to Sections I, II, and III of Book II, Part I, of your home study workbook

☐ READING: Read the following pages of your Owners Handbook:

pp. 28 - 35

pp. 87 - 93

☐ QUIZ: Take Quiz 2-1 and mail for grading.

STEP 2-2 ☐ WORKBOOK: Read and listen to Sections I, and II of Book II, Part II of your home study workbook

READING: Read the following pages of your Owners Handbook:

pp. 37 & 38

pp. 142 - 146

☐ QUIZ: Then take Quiz 2-2 and mail for grading.

STEP 2-3 ☐ WORKBOOK: Read and listen to Sections I, II, III, and IV of Book II, Part III of your home study workbook

☐ READING: Read the following pages of your Owners Handbook:

pp. 38 - 44

pp. 65 - 75

pp. 167 & 168

☐ QUIZ: Take Quiz 2-3 and mail for grading.

STEP 3-1 ☐ WORKBOOK: Read and listen to Sections I, II and III of Book III of your home study workbook

☐ READING: Read the following pages of your Owners Handbook:

pp. 235 - 237

pp. 97 - 101(TOP)

☐ QUIZ: Take Quiz 3-1 and mail for grading.

STEP 3-2 ☐ WORKBOOK: Read and Listen to Section IV of of Book III of your home study workbook

☐ READING: Read the following pages of your Owners Handbook:

pp. 101(BOTTOM) - 115

pp. 127 - 134

☐ QUIZ: Take Quiz 3-2 and mail for grading.

STEP 3-3 ☐ WORKBOOK: Read and listen to Sections V and VI of Book III of your home study workbook

☐ READING: Read the following pages of your Owners Handbook:

pp. 116 - 126

pp. 135 - 138

☐ QUIZ: Take Quiz 3-3 and mail for grading.

IF YOU ARE TAKING THIS COURSE FOR CONTINUING EDUCATION LICENSE RENEWAL CREDIT HOURS IF YOU SUCCESSFULLY PASS ALL QUIZZES UPON RECEIPT AND GRADING OF QUIZ 3-3 YOU WILL BE NOTIFIED OF THE LOCATION OF YOUR FINAL EXAM.

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

QUIZ 1-1

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE COMPLETED THE READING
ASSIGNMENT FOR SECTIONS ONE, TWO AND THREE

1. A mnemonic is:
 - A. A device inside the calculator.
 - B. A reminder of what a particular key will do for you.
 - C. The technical term for the display.
 - D. The mathematical result of pressing y^x .
2. The following key is called (CHS):
 - A. The abbreviation for Change Helix Soon.
 - B. Space.
 - C. A financial name dealing with cash flow.
 - D. Change Sign
3. This number (-123,456,789.) in financial terms represents:
 - A. A negative cash flow
 - B. A very small number
 - C. It is incorrect because the display cannot hold that many numbers.
 - D. The Gross National Product of the U.S. in the display.
4. One of the things an ERROR code does is stop your calculator at precisely the point where it encountered an error. When this happens what does it mean?
 - A. Have your calculator serviced.
 - B. You cannot continue with your computation until the ERROR situation is corrected
 - C. You must clear the ERROR code.
 - D. Both B and C.
5. Complete this sentence: When you turn the calculator off...
 - A. It is completely cleared.
 - B. Only the display is off.
 - C. You should always allow the calculator to turn itself off.
 - D. None of the above.
6. If you would like to permanently set the calculator's display to show you all the digits in its memory which keystroke would work best:
 - A. (f 0)
 - B. (f PREFIX)
 - C. (f 9)
 - D. (f ENTER)

7. This number (2.7565 22) represents a number in:
- A. In the ERROR code section of the workbook.
 - B. Scientific Notation as it might appear in the display.
 - C. It is very small.
 - D. Financial terms.
8. Commas and decimal points in the display are called:
- A. Commas and decimal points.
 - B. Digit separators.
 - C. The European system for displaying numbers
 - D. Both B and C
9. PR ERROR appearing in the display could mean:
- A. Please correct the error situation soon.
 - B. You have entered information outside the range of the calculator
 - C. Your calculator needs more time to complete the problem
 - D. Continuous memory cleared by power failure.
10. When the HP-12C displays two digits to the right of the decimal point the calculator may be holding more numbers in its memory but not displaying them.
- A. True
 - B. False

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

QUIZ 1-2

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE COMPLETED THE READING
ASSIGNMENT FOR SECTIONS IV, V, and VI.

1. What do the following keystroke symbols have in common?
 - A. They are all clear features
 - B. They are all math keystrokes
 - C. They have nothing in common
 - D. The x in all of them represents the x-register, the display
2. RPN logic is a system for manipulating numbers in the Automatic Memory Stack. It is like _____ used in other non - HP calculators.
 - A. Algebraic systems
 - B. Alametric logic
 - C. Algebraic logic
 - D. None of the above
3. Solve this arithmetic problem:
$$22 + 43 - 16 \div 12 \times 11 + 40 \div 400 =$$
 - A. 0.212291667
 - B. 0.21
 - C. Both A & B
 - D. Neither A nor B
4. The second rule for using the ENTER key says, "Use ENTER only after the first number in chain calculations"
 - A. True
 - B. False
5. After adding this column of numbers identify LASTx:
 - A. 2250
 - B. 2277
 - C. 2367
 - D. None of the above

140
210
1100
200
22
555
<u>23</u>

6. The memory of the HP-12C is composed of three major parts; The Automatic Memory Stack, the Financial Registers, and the Data Storage Registers or General Purpose Registers.
- A. True
 - B. False
7. The General Purpose Registers or Data Storage Registers have four uses: 1. Data Storage, 2. Cash Flow storage, 3. Statistical Calculations, 4. Programming
- A. True
 - B. False
8. Statistical calculations sometimes take place in registers R_0 thru R_6 .
- A. True
 - B. False
9. CLx means:
- A. Clear everything
 - B. Clear the display
 - C. Clear the x-register
 - D. Both B & C
10. (f CL REG) means:
- A. Clear everything
 - B. Clear the display only
 - C. Clear the x-register only
 - D. None of the above

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

QUIZ 1-3

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE COMPLETED THE READING
ASSIGNMENT FOR SECTIONS VII, VIII, and IX.

1. Name the financial registers of the HP-12C.
 - A. n, i, PV, PMT, FV
 - B. N_0 thru N_{20}
 - C. n, i, PV, PMT, FV & N_0 thru N_{20}
 - D. R_0 thru R_9 , $R_{.0}$ thru $R_{.9}$ and N_0 thru N_{20}
2. (f CL REG) will clear the entire financial memory. What other keystroke will clear the financial memory?
 - A. (f CL n)
 - B. (f CL FIN)
 - C. (CLx) Pressed three times
 - D. STO 0, n
3. You must have at least 3 values in the financial registers to calculate a fourth - one of these must be n or i.
 - A. True
 - B. False
4. (n) = Months
(i) = Monthly interest
(PV) = Loan
(PMT) = Monthly Payment
(FV) = Balloon
 - A. Always
 - B. Occasionally
 - C. Never
 - D. Not enough information
5. (g 12X) and (g 12÷) are related because they do similar things. One of these is to multiply the number in the display times 12. The other is:
 - A. The recall the financial values
 - B. They work together to calculate the loan amount
 - C. They store the new value in the complimentary register
 - D. They don't do anything else

6. Cash Flow Sign Convention means a positive number in the display is money in, a positive cash flow; and a negative number in the display is a negative cash flow, money out.
- A. True
 - B. False

You would like to compute the effect your purchase of real property will have on your personal finances. If you would like to purchase a home requiring \$110,000 in financing over 30 years, with a fixed rate mortgage of 13.5%:

7. What is the monthly payment?
- A. -1,259.95
 - B. 1,259.95
 - C. -15,190.16
 - D. This problem requires more information
8. What amount of interest would you have paid after the first 12 months?
- A. -14,832.68
 - B. 14,832.68
 - C. -1,237.50
 - D. This problem requires more information
9. What amount of principal would you have paid after the first 12 months?
- A. -286.72
 - B. 286.72
 - C. -22.45
 - D. This problem requires more information
10. What would you still owe after having made monthly payments for 12 months?
- A. 109,713.28
 - B. -109,713.28
 - C. 109,977.55
 - D. This problem requires more information

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

QUIZ 2-1

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE COMPLETED THE READING ASSIGNMENTS FOR BOOK TWO, PART I, SECTIONS I, II, AND III.

1. Find the percentage amount of 14.75% of 3200.

A. 452.00
B. 472.00
C. 3,673.00
D. None of the Above

2. Assuming you wish to add 6.7% sales tax to your \$335 purchase, what would be the tax and the total amount due and payable?

A. 23.45, 357.45
B. 22.45, 352.77
C. 22.45, 357.45
D. None of the above

3. If you had \$15,000 in sales last month and \$17,500 in sales this month, what is the difference in percent in sales between the two months?

A. 14.29
B. -16.67
C. 16.67
D. None of the above

4. If a house is valued at \$110,000 today, but was purchased 20 years ago for \$35,000, what is the difference in percentage terms regarding the value of the house?

A. 214.29%
B. -22.00
C. 41.25%
D. None of the above

5. Your sales office sold 150 million dollars in product last year. If Mr. X sold 12 million, Mr. L sold 22 million, Mr. R sold 42 million, and Mr. A & B each sold 37 million each, do the following percentages accurately reflect each of their performances?

<u>Mr. X</u>	<u>Mr. L</u>	<u>Mr. R</u>	<u>Mr. A</u>	<u>Mr. B</u>
12 mil	22 mil	42 mil	37 mil	37 mil
8.00%	14.67%	30.00%	24.67%	24.67%

- A. True
- B. False

6. What is the average of the following numbers?

1. 143,446
2. 83,550
3. 123,736
4. 109,950
5. 111,311
6. 89,950
7. 110,450
8. 222,200
9. 155,700
10. 98,850

- A. 123,225.50
- B. 124,914.30
- C. 127,810.33
- D. None of the above

7. If a particular property increased in value over the last five years at the values listed below, what would the property be worth in 20 years?

<u>VALUE</u>	<u>YEAR</u>
125,550	0
129,328	1
133,620	2
137,329	3
141,358	4
146,011	5

- A. 204,747.60
- B. 206,584.67
- C. 207,228.32
- D. None of the above

8. In how many years would the property above reach a value of \$250,000.
- A. 30.69
 - B. -30.00
 - C. 22.22
 - D. None of the above
9. The correct method for entering dates into the HP-12C in D.MY format is demonstrated below:
- July 4, 1976 = 7.041776
- A. True
 - B. False
10. What day of the week did December 25, 1950 fall on?
- A. Monday
 - B. Tuesday
 - C. Thursday
 - D. ERROR 8

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

Quiz 2-2

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE COMPLETED THE READING ASSIGNMENTS FOR BOOK TWO, PART TWO SECTIONS I and II.

1. What is the daily simple interest rate, calculated to 10 places, using the 360 day method for a 14% loan?
 - A. 0.04
 - B. 0.038888889
 - C. 1.00
 - D. None of the above
2. The HP-12C calculates two methods of simple interest: 360 day and compound.
 - A. True
 - B. False
3. Using the 360 day method for calculating simple interest, how much interest would you owe for a loan of \$1000 at 10% for one year (not a leap year)?
 - A. \$100
 - B. \$101.39
 - C. -100.00
 - D. None of the above
4. Using the actual days method for calculating simple interest, how much interest would you owe on a loan of \$15,275.22 over 1365 days at 15% interest?
 - A. -8,687.78
 - B. 15,275.22
 - C. -8,568.77
 - D. None of the above
5. What is the interest only monthly payment for a simple interest real estate loan of \$55,000 at 14% interest rate, beginning 9/22/85 and ending 9/22/90, calculated using the 360 day method?
 - A. \$650.94
 - B. \$642.02
 - C. \$7606.94
 - D. \$7700.00

6. What is the monthly payment for the loan above calculated using the actual days method?

- A. \$650.94
- B. \$642.02
- C. \$7,606.94
- D. \$7,700.00

7. Price, Yield, Cash Flow, are typically terms used by:

- A. A borrower
- B. A homeowner
- C. An investor
- D. None of the above

You wish to purchase a second mortgage offered for sale. Thirty-six payments have been made on a mortgage originally written over 360 periods with a balloon payment due in 10 years. The remaining balance is \$19227.49 and the original rate of interest was 18%. If you intend to earn no less than 16%:

8. What is the monthly payment?

- A. -290.53
- B. -290.75
- C. -290.22
- D. None of the above.

9. What is the balloon payment going to be in 84 months?

- A. -18,839.27
- B. -18,824.99
- C. -18,830.00
- D. None of the above

10. What will you pay for this mortgage?

- A. 21,184.71
- B. 21,003.42
- C. 20,830.92
- D. None of the above

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

Quiz 2-3

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE FIRST COMPLETED THE READING ASSIGNMENTS FOR BOOK TWO, PART THREE, SECTIONS I, II, III, IV.

1. What is the basic difference between compound interest calculations and cash flow analysis in the HP-12C financial calculator?
 - A. None
 - B. Compound interest problems always have even cash flows, cash flow analysis has uneven cash flows
 - C. The keys
 - D. Both B & C
2. Cfo may be zero, negative, or positive; and Nj may be zero, negative or positive.
 - A. True
 - B. False
3. With a 16% desired yield, solve for NPV.

#	Cash Flow
0	0
1	-3,000
2	-7,000
3	10,000
4	50,000
5	175,000

- A. 109,552.56
 - B. -109,552.56
 - C. 127,080.97
 - D. None of the above
4. Assuming you wish to earn a minimum of 8.5% on your investment, what is the minimum you should invest with the following monthly cash flows?

#	Cash Flow
0	0
1	-300 X 12

(CONTINUE ON NEXT PAGE)

2	-100	X	12
3	700	X	12
4	900	X	12
5	25,000		

- A. -27,975.72
- B. 27,975.72
- C. 28,173.88
- D. None of the above

5. You wish to determine the current value of an investment with the following cash flows. To do so compare them to an earning rate of 10.525%. What is the NPV?

#	CASH FLOW
0	-150,150
1	- 42,450
2	- 12,750
3	3,275
4	15,250
5	30,375
6	225,220

- A. -44,382.73
- B. 44,382.73
- C. 172,420.80
- D. None of the above

6. What is the actual IRR for the investment above?

- A. 65.81%
- B. 5.48%
- C. 0.46%
- D. None of the above

7. Determine the IRR for an investment with even monthly cash flows of \$550.20 for 60 months, an initial investment of \$42,500 and proceeds of sale of \$52,575. The IRR should be in annual terms.
- A. 1.54%
 B. 18.45
 C. ERROR 5
 D. None of the above
8. What is the annual IRR for the following cash flows?

#	Cash Flow
0	-42,500
1	550.20 X 12
2	600.50 X 12
3	650.00 X 12
4	700.00 X 12
5	750.00 X 12
6	52,575

- A. 1.69%
 B. 20.33%
 C. ERROR 7
 D. None of the above
9. Determine the annual IRR for the following monthly cash flows.

#	Cash Flow
0	-378,225
1	-1,800
2	-2,200
3	4,225
4	4,372
5	5,220
6	5,220
7	5,220
8	5,220
9	5,795
10	4,362
11	3,171
12	-5,520
13	-1,818
14	3,271
15	4,443
16	4,443
17	6,785
18	7,244

(Continued on next page)

#	Cash Flow
19	7,181
20	7,181
21	7,181
22	8,280
23	5,344
24	700,531

- A. 3.32%
- B. 39.88%
- C. ERROR 7
- D. None of the above

10. Alter cash flow #24 above in the memory to 445,722.00 and what is the annual IRR?

- A. 1.60%
- B. 19.22%
- C. ERROR 7
- D. None of the above

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

Quiz 3-1

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE COMPLETED THE READING ASSIGNMENT FOR BOOK THREE, SECTIONS I, II, AND III.

1. Which of the following is not a valid reason for using programs in the HP-12C.
 - A. Frees the operator from repetetive calculations
 - B. Many programs may be placed in memory
 - C. You must know a programming language
 - D. None of the above
2. In a sense all of the keys are preprogrammed on the HP-12C.
 - A. True
 - B. False
3. (FV) is key coded:
 - A. 15
 - B. 16
 - C. 23
 - D. None of the above
4. (IRR) is key coded:
 - A. 42 16
 - B. 42 15
 - C. 43 20
 - D. 43 15
5. What key is coded (43 5)
 - A. D.MY
 - B. X = 0
 - C. XW
 - D. None of the above
6. What key is coded (43 7)
 - A. (g BEG)
 - B. (g DATE)
 - C. (g X = 0)
 - D. (RCL)

7. P - 08 r - 20 could mean there is no program stored in memory.
- A. True
 - B. False
8. Why does the calculator indicate P - 08 r - 20 if there is no program stored in memory?
- A. There are always GT0 00 instructions stored in the first 8 program memories
 - B. There is a permanent program stored on the silicon chip in the memory of the machine
 - C. There are always 28 memories always available for use
 - D. None of the above
9. Registers R_0 thru R_6 are never used for storing programs
- A. True
 - B. False
10. Register R_9 is used to store program instructions 09- thru 15-
- A. True
 - B. False

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

Quiz 3-2

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE COMPLETED THE READING ASSIGNMENT
FOR BOOK III, SECTION IV

1. If the HP-12C is in PRGM mode it is not in _____ mode.
 - A. Program
 - B. Run mode
 - C. Alpha mode
 - D. None of the above
2. To clear PRGM memory just press (f CL PRGM)
 - A. True
 - B. False
3. Line 00- is the starting place of most programs. What instruction is always stored here?
 - A. g GTO 00
 - B. 43,33 00
 - C. No instruction is ever stored here
 - D. None of the above
4. To reset the HP-12C to RUN mode you must press:
 - A. (f P/R)
 - B. (f PRGM)
 - C. (f REG)
 - D. None of the above
5. The last line in program memory in 00-
 - A. True
 - B. False

The next 5 questions depend upon your having the amortization program on page 5 in your home study workbook of BOOK III in the program memory of your calculator.

6. How many lines of program memory does the calculator claim to have stored in program memory?
 - A. 08
 - B. 15
 - C. 16
 - D. None of the above

7. Line 08- of the amortization program has an instruction called:

- A. A Y pair
- B. A simple loop
- C. A complex brand
- D. None of the above

Amortize the following mortgage terms using the program currently in your program memory

Loan amt.	\$110,000
Mo. Term	360 Months
Int. Rate	13.75%

8. What is the monthly payment for the terms above?

- A. -1,281.62
- B. -4,353.67
- C. 15,125.00
- D. None of the above

9. What is the total principal paid after the first year of the mortgage above?

- A. -1,260.42
- B. -21.20
- C. 109,978.80
- D. None of the above

10. What is the remaining balance after the second year of the mortgage above?

- A. -1,260.17
- B. -21.45
- C. 109,957.35
- D. None of the above

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

QUIZ 3-3

DO NOT COMPLETE THIS QUIZ UNTIL YOU HAVE COMPLETED THE READING ASSIGNMENT FOR BOOK III, SECTIONS V and VI

1. SST in PRGM mode will do two things: 1) If held down the calculator displays the next program line to be executed, and; 2) When released the calculator executes the line

A. True
B. False
2. g BST in RUN mode, when keyed, shows the last program instruction executed then performs that instruction

A. True
B. False
3. What does the HP-12C display on line 03- of program memory if the memory is completely clear?

A. 03- 34
B. 03- 42 11
C. 03- 43,33 00
D. None of the above
4. In PRGM mode executing a g GTO 09 instruction will show that instruction which is written on line 09-

A. True
B. False
5. The definition of a loop is a GTO instruction with a line number smaller than the line on which it rests.

A. True
B. False
6. Adding a (g PSE) instruction to program memory pauses the execution of the program for about 1 second.

A. True
B. False
7. Adding at end, Adding within, Adding by replacement and adding by looping are the four editing methods available to you on the HP-12C.

A. True
B. False

8. You may run as many programs as will fit into 99 program lines.
- A. True
 - B. False
9. The first step to writing quality programs is to determine the final result
- A. True
 - B. False
10. Because the HP-12C has continuous memory any program written into program memory will be retained indefinitely.
- A. True
 - B. False

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

QUIZ ANSWERS

	<u>1-1</u>	<u>1-2</u>	<u>1-3</u>
1.	B	D	C
2.	D	C	B
3.	A	C	A
4.	D	A	B
5.	B	D	C
6.	C	A	A
7.	B	A	A
8.	B	B	A
9.	D	D	A
10.	A	D	A
	<u>2-1</u>	<u>2-2</u>	<u>2-3</u>
1.	B	B	D
2.	C	B	B
3.	C	B	A
4.	A	C	B
5.	B	A	A
6.	B	B	B
7.	B	C	B
8.	A	B	B
9.	B	A	B
10.	A	C	B

	<u>3-1</u>	<u>3-2</u>	<u>3-3</u>
1.	C	B	B
2.	A	A	B
3.	A	C	C
4.	B	A	B
5.	D	B	A
6.	A	A	A
7.	A	B	B
8.	A	A	A
9.	A	D	A
10.	A	D	A

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

BASIC FEATURES FINAL EXAM

1. A mnemonic is:
 - A. A device inside the calculator.
 - B. A reminder of what a particular key will do for you.
 - C. The technical term for the display.
 - D. The mathematical result of pressing y^x .
2. The following key is called (CHS):
 - A. The abbreviation for Change Helix Soon.
 - B. Space.
 - C. A financial name dealing with cash flow.
 - D. Change Sign
3. This number (-123,456,789.) in financial terms represents:
 - A. A negative cash flow
 - B. A very small number
 - C. It is incorrect because the display cannot hold that many numbers.
 - D. The Gross National Product of the U.S. in the display.
4. One of the things an ERROR code does is stop your calculator at precisely the point where it encountered an error. When this happens what does it mean?
 - A. Have your calculator serviced.
 - B. You cannot continue with your computation until the ERROR situation is corrected
 - C. You must clear the ERROR code.
 - D. Both B and C.
5. Complete this sentence: When you turn the calculator off...
 - A. It is completely cleared.
 - B. Only the display is off.
 - C. You should always allow the calculator to turn itself off.
 - D. None of the above.
6. If you would like to permanently set the calculator's display to show you all the digits in its memory which keystroke would work best:
 - A. (f 0)
 - B. (f PREFIX)
 - C. (f 9)
 - D. (f ENTER)

7. This number (2.7565 22) represents a number in:
- A. In the ERROR code section of the workbook.
 - B. Scientific Notation as it might appear in the display.
 - C. It is very small.
 - D. Financial terms.
8. Commas and decimal points in the display are called:
- A. Commas and decimal points.
 - B. Digit separators.
 - C. The European system for displaying numbers
 - D. Both B and C
9. PR ERROR appearing in the display could mean:
- A. Please correct the error situation soon.
 - B. You have entered information outside the range of the calculator
 - C. Your calculator needs more time to complete the problem
 - D. Continuous memory cleared by power failure.
10. When the HP-12C displays two digits to the right of the decimal point the calculator may be holding more numbers in its memory but not displaying them.
- A. True
 - B. False

11. The four parts of the Automatic Memory Stack are:
- A. $R_0 - R_4$
 - B. A, B, C, D
 - C. X, Y, Z, T
 - D. 1, 2, 3, 4
12. When Pressing the ENTER key numbers:
- A. Disappear
 - B. Move up in the Automatic Memory Stack
 - C. Are separated from each other
 - D. Both B & C
13. All calculations take place in the X and Y registers of the Automatic Memory Stack. What are the Z and T registers for?
- A. Storing intermediate results
 - B. Part of the Data Storage Memory
 - C. Both A & B
 - D. None of the Above
14. If you were to subtract the two numbers below, how many of the Automatic memory stack registers would you use?

$$\begin{array}{r} 5 \\ -2 \\ \hline \end{array}$$

- A. 1
 - B. 2
 - C. 3
 - D. 4
15. What is the answer to the following equation:
- $$\frac{(3 \times 4) + (5 \times 6)}{7} + \frac{(2 \times 3) + (7 \times 3)}{3}$$
- A. 9
 - B. 11
 - C. 15
 - D. 21

NOTE: THE NEXT FOUR QUESTIONS REQUIRE YOUR HAVING ENTERED THE FOLLOWING INFORMATION INTO YOUR CALCULATOR.

<u>K</u>	<u>D</u>
5	5.
(ENTER)	5.00
3	3.
(ENTER)	3.00

<u>K</u>	<u>D</u>
7	7.
(ENTER)	7.00
21	21.

16. Press $X \leq Y$ one time after entering the information above. What is the number in the display?

A. 5
B. 3
C. 7
D. 21

17. Press $X \geq Y$ again. What is the number in the display now?

A. 5
B. 3
C. 7
D. 21

18. Press $R \downarrow$ three times. What is the number in the display?

A. 5
B. 3
C. 7
D. 21

19. Press $R \downarrow$ four more times. What now is the number in the display?

A. 5
B. 3
C. 7
D. 21

20.

$$14 \div 27 =$$

A. 0.52
B. 52.00
C. 1.93
D. None of the above

21.

$$557263 - 125726 =$$

A. 431,538.00
B. 431,536.00
C. 431,535.00
D. None of the above

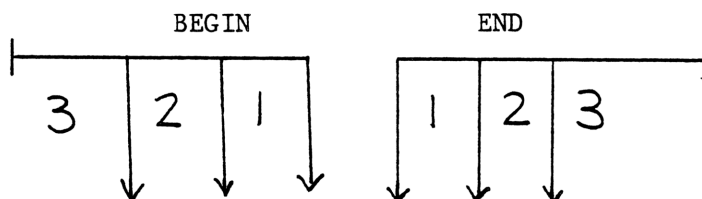
22. $(42 \div 17) \times (50 + 22) =$
- A. 177.88
 - B. 17.788
 - C. 173.50
 - D. None of the above
23. There are four memories in the Automatic Memory Stack.
- A. True
 - B. False
24. The Data Storage or General Purpose Registers of the calculator are called $R_0 - R_9$ and $R_{10} - R_{20}$.
- A. True
 - B. False
25. If you press the CLx key several times it automatically clears the entire memory of the HP-12C.
- A. True
 - B. False
26. To store the number 50 in the first register of the Data Storage Memory you would have to press which of the following keys:
- A. 50 (STO) 01
 - B. 50 (STO) 1
 - C. 50 (STO) 0
 - D. 50 (STO) .0
27. To perform storage register arithmetic with your calculator you are restricted from using which of the following registers of the HP-12C?
- A. $R_0 - R_4$
 - B. $R_0 - R_6$
 - C. $R_0 - R_8$
 - D. There is no restriction to using the Data Storage Registers
28. One of the ways to clear financial memory appears below. Which is it?
- A. (f CLEAR E)
 - B. (f CLEAR REG)
 - C. (f CLEAR PREFIX)
 - D. (CLx)

29. Which of the 4-RIGHTS does not appear below:

1. To obtain the RIGHT answer
2. The RIGHT INFORMATION
3. Press the RIGHT key

- A. Right away
- B. Left or Right
- C. In the Right place
- D. In the Right way

30. The diagrams below represent beginning and ending payment cash flow diagrams.



- A. True
- B. False

31. (12x) is the automatic multiplier. It performs two functions:
1) Multiplies the number in the display X 12, and 2) Stores the newly calculated number in the n-register.

- A. True
- B. False

32. The "T" chart below represents a typical financial relationship between borrower and lender.

BORROWER	LENDER
+PV	-PV

- A. True
- B. False

33. Future Value is the final cash flow; or the future value of a series of prior cash flows.

- A. True
- B. False

34. Find the monthly payment for a 30 year mortgage, at 14.5% interest rate with a loan amount of \$120,000.

- A. -1,469.47
- B. -4,792.56
- C. -17,400.00
- D. None of the above

35. What would be the monthly payment of the previous problem if the HP-12C were set to BEGIN mode.
- A. -1472.80
 - B. -1451.92
 - C. -920.50
 - D. None of the above
36. What would be the annual interest rate on a 25 year, \$125,000 mortgage loan with an annual payment of \$-15,300.
- A. 11.42
 - B. 11.55
 - C. 11.50
 - D. None of the Above
37. You wish to amortize a 30 year fixed rate mortgage, at 13.50 interest rate, with monthly payments of \$1,317.22 and a loan amount of \$115,000.
- What is the total interest paid after the first 12 months?
- A. -16,000.00
 - B. -15,506.91
 - C. 17,538.21
 - D. None of the above
38. What is the total principal paid after the first 12 months?
- A. -300.00
 - B. -299.73
 - C. 33,344.85
 - D. None of the above

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

ADVANCED FEATURES FINAL EXAM

1. Find the percentage amount of 14.5% of 1500.
 - A. 217.50
 - B. 2.18
 - C. 220.00
 - D. None of the above.

2. Assuming you wish to add 6.5% sales tax to your \$335. purchase, what would be the amount of the tax and the total amount due and payable?
 - A. 21.78, 337.18
 - B. 2.18, 337.18
 - C. 21.78, 356.78
 - D. None of the above

3. If you had \$5000. in sales last month and \$5500. in sales this month, what is the difference in sales in percentage terms?
 - A. -9.09%
 - B. 10.00%
 - C. 22.00%
 - D. None of the above

4. If a house is valued at \$225,000 but was purchased 20 years ago for \$125,000, what is the difference in value in percentage terms?
 - A. 400.00%
 - B. 80.00%
 - C. -44.44%
 - D. None of the above

5. Your sales office sold 150 million dollars in product last year. If Mr. X sold 14 million, Mr. L sold 22 million, Mr. R sold 42 million and Mr. A and Mr. B 36 million each. Do the following percentages accurately reflect each of their performances?

<u>Mr. X</u>	<u>Mr. L</u>	<u>Mr. R</u>	<u>Mr. A</u>	<u>Mr. B</u>
14 mil	22 mil	42 mil	36 mil	36 mil
9.33%	14.67%	28.00%	24.00%	24.00%

 - A. True
 - B. False

6. What is the average of the following numbers?
 1. 142,225
 2. 82,250
 3. 122,436

- 4. 99,950
- 5. 100,101
- 6. 79,950
- 7. 115,250
- 8. 222,000
- 9. 145,500
- 10. 97,750

- A. 120,731.10
- B. 120,741.20
- C. 124,772.30
- D. None of the above

7. If a particular property increased in value over the last five years at the values listed below, what would the property be worth in 20 years?

<u>VALUE</u>	<u>YEAR</u>
122,750	0
126,432	1
130,225	2
134,132	3
138,156	4
142,301	5

- A. 200,743.81
- B. 200,749.67
- C. 200,748.83
- D. None of the above

8. How long would it take for the property above to reach \$200,000 in value?

- A. 19.75 years
- B. 19.81 years
- C. 19.33 years
- D. None of the above

9. The correct method for entering the following dates into the calculator in M.DY format is:

April 3, 1999 = 4.031999

- A. True
- B. False

10. What day of the week did December 25, 1945 occur?
- A. Monday
 - B. Tuesday
 - C. Wednesday
 - D. Thursday
11. What is the date 180 days in the future from May 30, 1985?
- A. 11,26,1985
 - B. 11,25,1985
 - C. 10,15,1985
 - D. None of the above
12. How many days were there between May 1, 1951 and June 12, 1963?
- A. 4,430
 - B. 4,425
 - C. 4,475
 - D. None of the above
13. You make a simple interest business loan to an associate for \$5000 at 10% interest for 180 days. What is the amount of interest due and payable at the end of the term calculated on a 360 day calender?
- A. -250.00
 - B. -275.00
 - C. -246.58
 - D. None of the above
14. What is the total due and payable for a simple interest loan of \$15,000 from May 1, 1985 to June 1, 1985, calculated on an actual days basis at 12% simple interest?
- A. -15,155.00
 - B. -15,152.88
 - C. -15,153.88
 - D. None of the above
15. You intend to construct a real estate loan package for your seller based upon simple interest of 10% for 5 years, and a loan of \$55,000. with monthly payments beginning April 1, 1984 and concluding April 1, 1989. What is the monthly payment on a 30 day calender?
- A. -1,381.62
 - B. -1,375.25
 - C. -1,380.00
 - D. None of the above

16. What is the balloon payment for a 60 month contract with monthly payments calculated over 30 years with a loan amount of \$115,000 and an interest rate of 13.75%.
- A. -113,145.30
 - B. -113,105.82
 - C. -113,101.87
 - D. None of the above
17. What is the balloon payment for the contract above after 120 monthly payments?
- A. -109,341.73
 - B. -109,427.75
 - C. -109,422.83
 - D. None of the above
18. An investor is willing to buy a real estate contract earning 16% over 48 months with cash flow of \$1,372.55. What is the price of this mortgage?
- A. -\$48,433.72
 - B. +\$48,431.07
 - C. -\$48,431.07
 - D. None of the above
19. An investor is willing to accept the preceding contract on the condition that a \$15,000 balloon payment is payable after the 48th monthly payment. What is the price after this adjustment?
- A. -\$56,373.97
 - B. +\$56,373.97
 - C. -\$57,434.20
 - D. None of the above
20. What is the annual yield on a contract with 120 periods, cash flow of \$522.60 per month and a price of -\$29,003.49?
- A. ERROR 5
 - B. 18.00%
 - C. 11.50%
 - D. None of the above
21. What would be the annual yield on the contract above if a balloon payment of \$5000 were included in the contract?
- A. ERROR 5
 - B. 18.77%
 - C. 11.56%
 - D. None of the above

22. Compound interest and cash flow calculations are related in the sense that in both cases time periods are always of equal length?
- A. True
B. False
23. Level payments are to cash flows as yield is to IRR in the HP-12C.
- A. True
B. False
24. If NPV is negative the actual rate of return is greater than the desired rate.
- A. True
B. False
25. If NPV is positive the actual rate of return is less than the desired rate.
- A. True
B. False
26. What is the NPV for the cash flows below with an IRR of 17%?

#	CASH FLOW
0	0
1	22,500
2	23,500
3	26,300
4	21,200
5	27,500

- A. 76,673.80
B. 76,675.22
C. 76,670.82
D. None of the above

27. What is the NPV of the cash flows below with an IRR of 19%?

#	CASH FLOW
0	-150,000
1	5,000
2	7,000
3	7,000
4	7,000
5	10,000
6	11,000
7	12,000
8	12,000
9	12,000
10	12,000
11	15,000
12	15,000
13	17,000
14	18,000
15	175,000

- A. -93,697.82
- B. -93,690.81
- C. -206,302.18
- D. None of the above

28. What is the actual IRR for this investment?

- A. 7.30%
- B. 7.33%
- C. 7.11%
- D. None of the above

29. In what register of the HP-12C will the \$18,000 cash flow from the table at question 27.
- A. R₅
 - B. R₆
 - C. R₇
 - D. R₈
30. What keystroke sequence would you use to change the \$18,000 cash flow to a \$20,000 cash flow from the table in #27.
- A. 20000 (STO) 5
 - B. 20000 (STO) 6
 - C. 20000 (STO) 7
 - D. None of the above
31. IRR is really only the calculation of yield with uneven cash flows.
- A. True
 - B. False
32. What is the IRR of a \$10,000 initial investment with \$3600 even monthly cash flows over 12 months with proceeds of sale of \$13,000?
- A. 17.00%
 - B. 16.93%
 - C. 16.87%
 - D. None of the above
33. What is the IRR for the following cash flows?

#	CASH FLOWS
0	970,000
1	243,866
2	233,307
3	201,032
4	177,016
5	150,898
6	122,732
7	1,207,210

- A. 23.03
- B. 21.07
- C. 21.10
- D. None of the above

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

PROGRAMMING FINAL EXAM

1. The HP-12C can run independent of the operator while running programs.
 - A. True
 - B. False
2. In a sense all the keys of the HP-12C are pre-programmed.
 - A. True
 - B. False
3. (NPV) is key coded:
 - A. 43 13
 - B. 42 13
 - C. 13
 - D. None of the above
4. LSTx is key coded:
 - A. 43 36
 - B. 42 36
 - C. 36
 - D. None of the above
5. The digit 4 is key coded:
 - A. 27
 - B. 4
 - C. 42 27
 - D. None of the above
6. Instructions 93- thru 99- would be stored in what data storage register if programmed in memory?
 - A. 00- thru 08-
 - B. R.9
 - C. R.0
 - D. R7
7. Registers R_0 thru R_6 are used only for data storage.
 - A. True
 - B. False

8. 00- thru 08- are fixed program memories.
- A. True
 - B. False
9. 00- is where the first line of program instructions are always stored.
- A. True
 - B. False
10. SST and BST are programmable into program memory.
- A. True
 - B. False
11. A branch forces the program to move to another part of program memory.
- A. True
 - B. False
12. Adding instructions to a prpgram in another part of memory is called:
- A. Adding at end
 - B. Adding by replacement
 - C. Adding within
 - D. None of the above
13. It is entirely possible to run 2 - 45 line programs and a 9 line program in the HP-12C.
- A. True
 - B. False
14. Since the HP-12C has a continuous memory it serves no purpose to write down a program after creating it.
- A. True
 - B. False
15. $X \neq 0$ and $X \geq Y$ are the two conditional tests you might use in an HP-12C program.
- A. True
 - B. False

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

BASIC FEATURES-ANSWERS

- | | | | |
|-----|---|-----|---|
| 1. | B | 20. | A |
| 2. | D | 21. | D |
| 3. | A | 22. | B |
| 4. | D | 23. | A |
| 5. | B | 24. | B |
| 6. | C | 25. | B |
| 7. | B | 26. | C |
| 8. | B | 27. | A |
| 9. | D | 28. | B |
| 10. | A | 29. | C |
| 11. | C | 30. | B |
| 12. | D | 31. | A |
| 13. | A | 32. | A |
| 14. | B | 33. | A |
| 15. | C | 34. | A |
| 16. | C | 35. | B |
| 17. | D | 36. | D |
| 18. | A | 37. | B |
| 19. | A | 38. | B |

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

ADVANCED FEATURES-ANSWERS

- | | | | |
|-----|---|-----|---|
| 1. | A | 18. | C |
| 2. | C | 19. | A |
| 3. | B | 20. | B |
| 4. | B | 21. | B |
| 5. | A | 22. | A |
| 6. | B | 23. | A |
| 7. | B | 24. | B |
| 8. | B | 25. | B |
| 9. | A | 26. | B |
| 10. | B | 27. | A |
| 11. | A | 28. | A |
| 12. | B | 29. | D |
| 13. | A | 30. | D |
| 14. | B | 31. | A |
| 15. | A | 32. | B |
| 16. | C | 33. | B |
| 17. | A | | |

MASTERING YOUR FINANCIAL CALCULATOR
HP-12C HOME STUDY COURSE

PROGRAMMING FINAL EXAM ANSWERS

- | | |
|-----|---|
| 1. | A |
| 2. | A |
| 3. | B |
| 4. | A |
| 5. | B |
| 6. | D |
| 7. | B |
| 8. | A |
| 8. | B |
| 10. | B |
| 11. | A |
| 12. | D |
| 13. | A |
| 14. | B |
| 15. | B |

