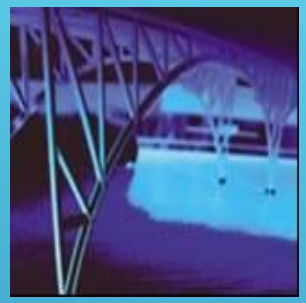
APPLIED FINANCE

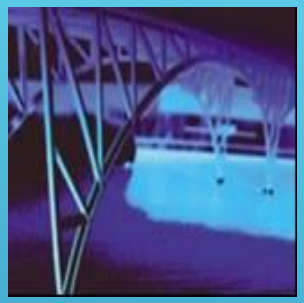
Lecture 10



VALUATION USING TABLE I

$FVIF_{i,n}$ is found on Table I at the end of the book.

Period	6%	7%	8%
1	1.060	1.070	1.080
2	1.124	1.145	1.166
3	1.191	1.225	1.260
4	1.262	1.311	1.360
5	1.338	1.403	1.469



USING FUTURE VALUE TABLES

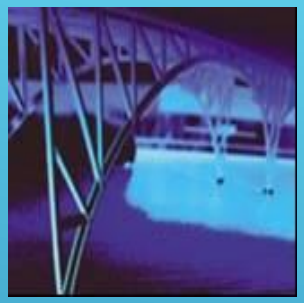
FV_2 = \$1,000 ($FVIF_{7\%,2}$)

= \$1,000 (1.145)

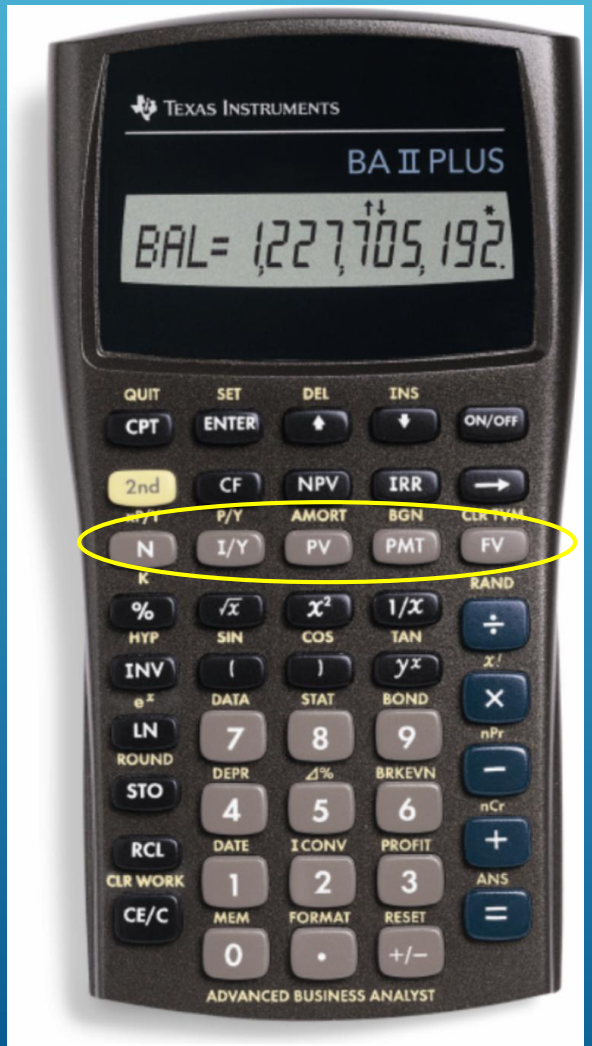
= \$1,145

[Due to Rounding]

Period	6%	7%	8%
1	1.060	1.070	1.080
2	1.124	**1.145**	1.166
3	1.191	1.225	1.260
4	1.262	1.311	1.360
5	1.338	1.403	1.469



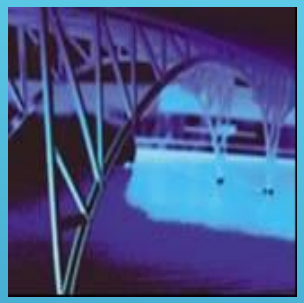
TVM ON THE CALCULATOR



- Use the highlighted row of keys for solving any of the FV, PV, FVA, PVA, FVAD, and PVAD problems

N: Number of periods
I/Y: Interest rate per period
PV: Present value
PMT: Payment per period
FV: Future value

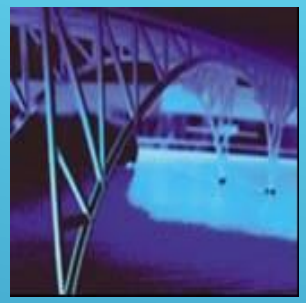
CLR TVM: Clears all of the inputs into the above TVM keys



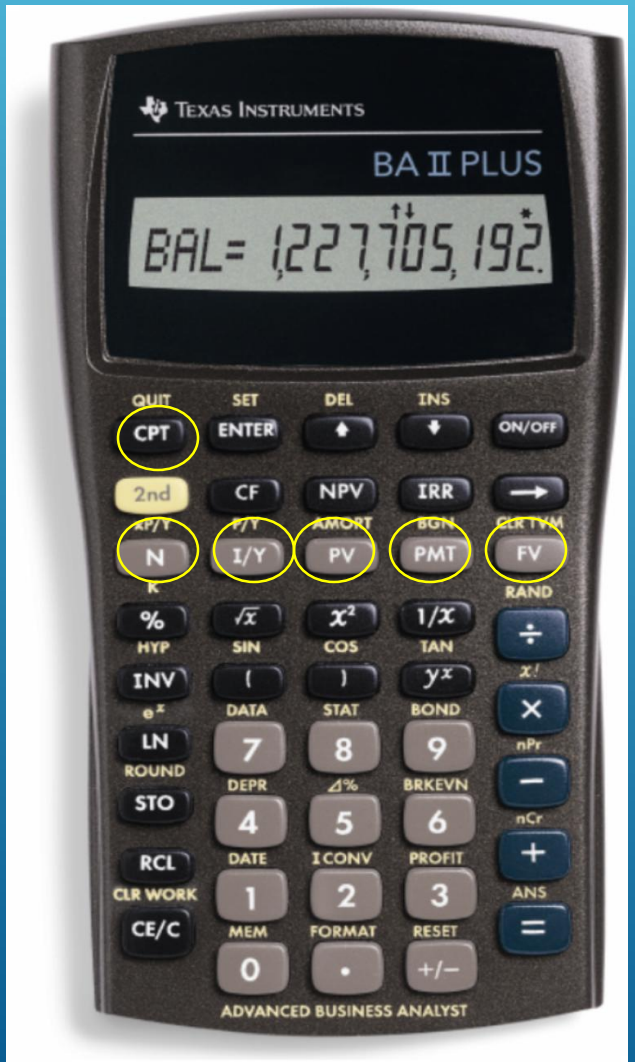
USING THE TI BAII+ CALCULATOR

Inputs						
	N	I/Y	PV	PMT	FV	
Compute						

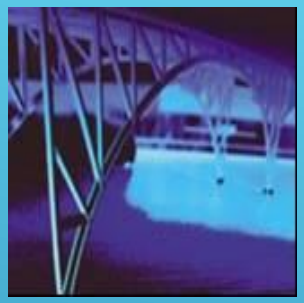
- Focus on 3rd Row of keys (will be displayed in slides as shown above)



ENTERING THE FV PROBLEM



Press:



SOLVING THE FV PROBLEM

Inputs	2	7	-1,000	0	
	N	**I/Y**	**PV**	**PMT**	**FV**
Compute					1,144.90

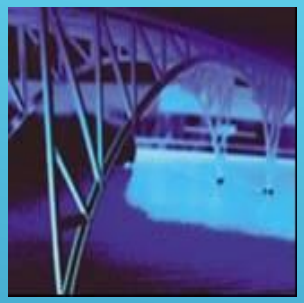
N: 2 Periods (enter as 2)

I/Y: 7% interest rate per period (enter as 7 NOT .07)

PV: $1,000 (enter as negative as you have “less”)

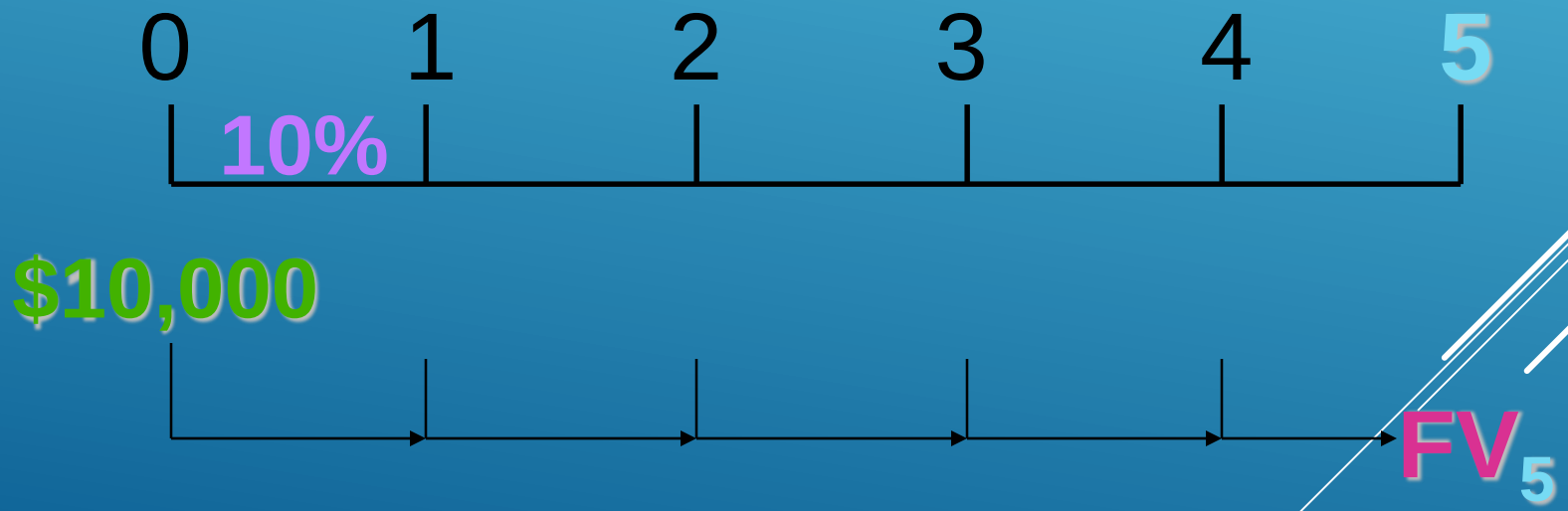
PMT: Not relevant in this situation (enter as 0)

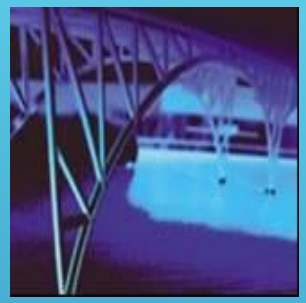
FV: Compute (Resulting answer is positive)



STORY PROBLEM EXAMPLE

Julie Miller wants to know how large her deposit of $10,000 today will become at a compound annual interest rate of 10% for 5 years.





STORY PROBLEM SOLUTION

- **Calculation based on general formula:**

$$FV_n = P_0 (1+i)^n$$

$$FV_5 = \$10{,}000 (1+ 0.10)^5$$

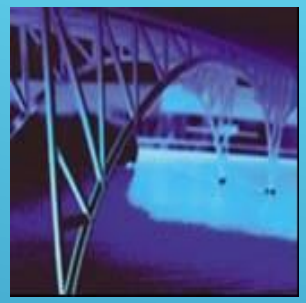
$$= \$16{,}105.10$$

- Calculation based on Table I:

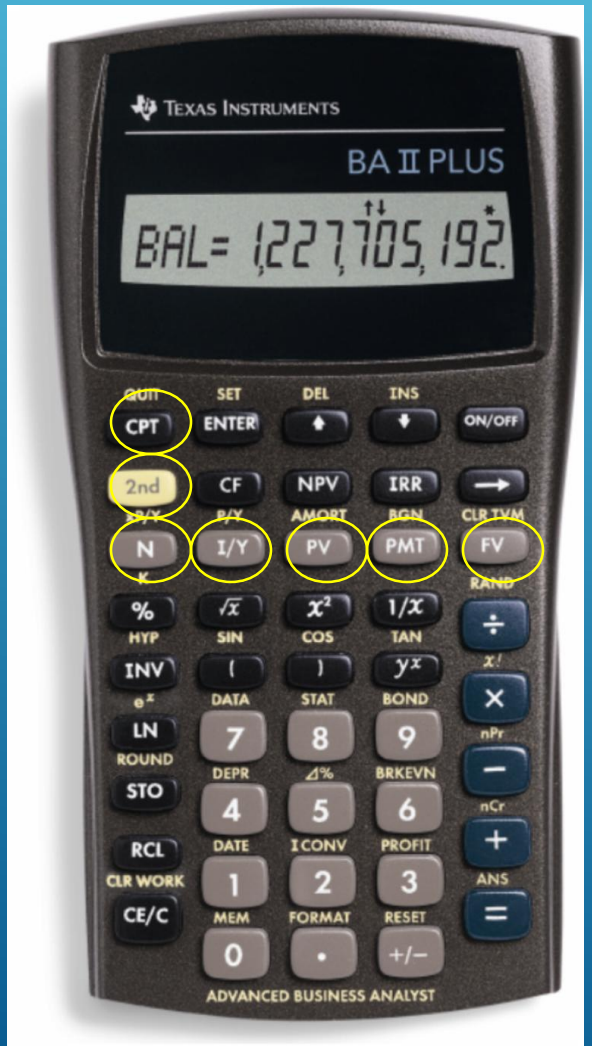
$FV_5 = \$10{,}000 (FVIF_{10\%, 5})$ =

$\$10{,}000 (1.611)$ = $16,110

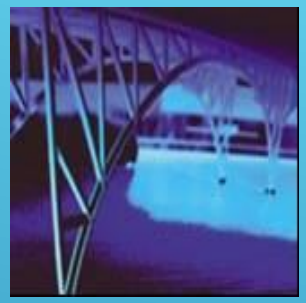
[Due to Rounding]



ENTERING THE FV PROBLEM



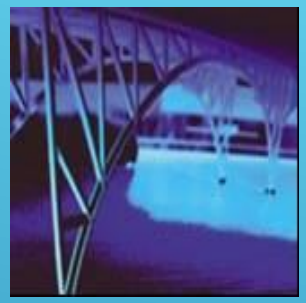
Press:



SOLVING THE FV PROBLEM

	N	I/Y	PV	PMT	FV
Inputs	5	10	-10,000	0	
Compute					16,105.10

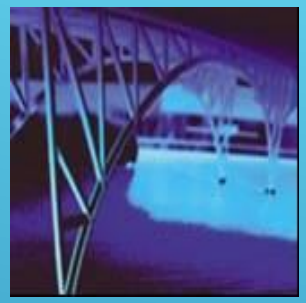
The result indicates that a $10,000 investment that earns 10% annually for 5 years will result in a future value of $16,105.10.



Quick! How long does it take to double $5,000 at a compound rate of 12% per year (approx.)?

We will use the "Rule-of-72".

DOUBLE YOUR MONEY!!!



Quick! How long does it take to double $5,000 at a compound rate of 12% per year (approx.)?

Approx. Years to Double = 72 / i%

THE "RULE-OF-72"

72 / 12% = 6 Years

[Actual Time is 6.12 Years]