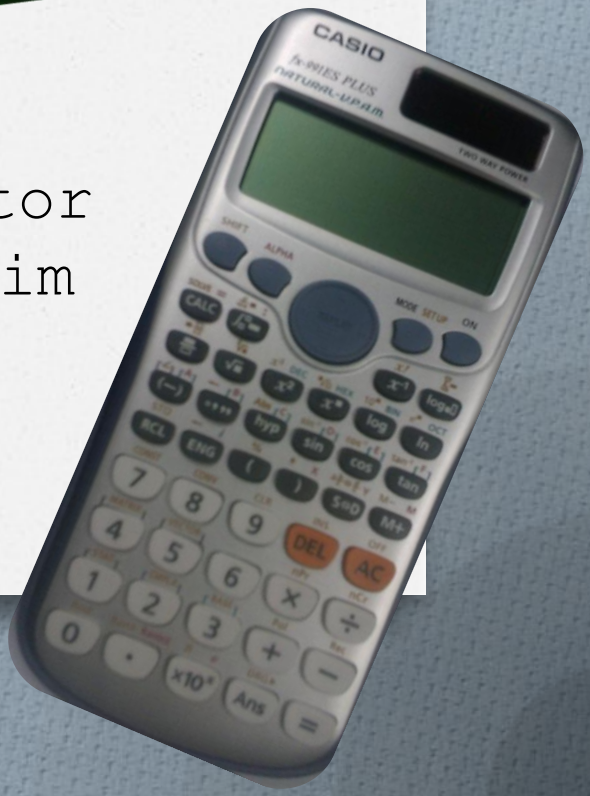
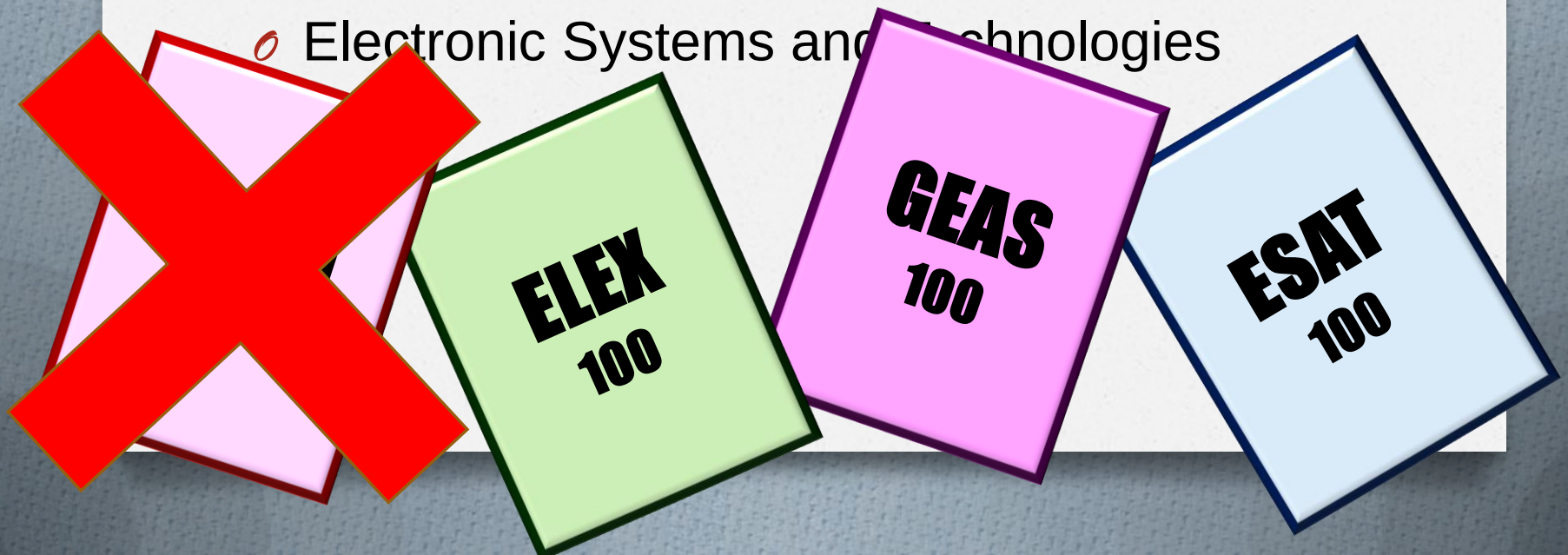
How to BEAT the BOARD EXAM using *fx*-991ES PLUS

Mathematics Calculator
Techniques by Sir Tim



ELECTRONICS ENGINEERING LICENSURE EXAMINATION

- Engineering Mathematics
- Electronics Engineering
- General Engineering and Applied Sciences
- Electronic Systems and [illegible]chnologies



ENGINEERING MATHEMATICS

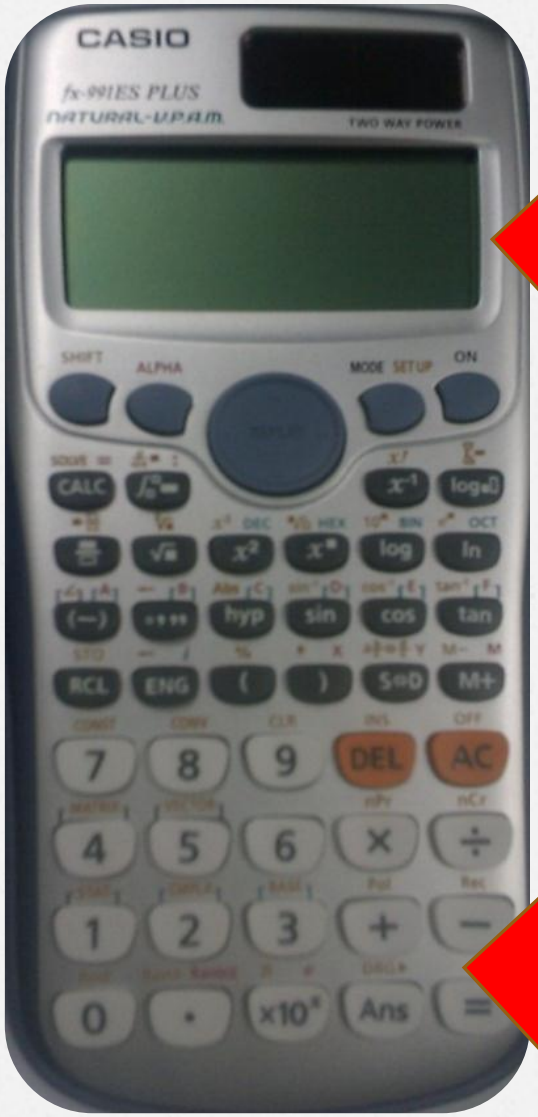
100

ENGINEERING MATHEMATICS

- 100 items
- All problem solving
- Majority are worded problems

- Time limit: **4 hours**

HOW TO SURVIVE THE ENGINEERING MATHEMATICS BOARD EXAM?



fx – 991 ES PLUS

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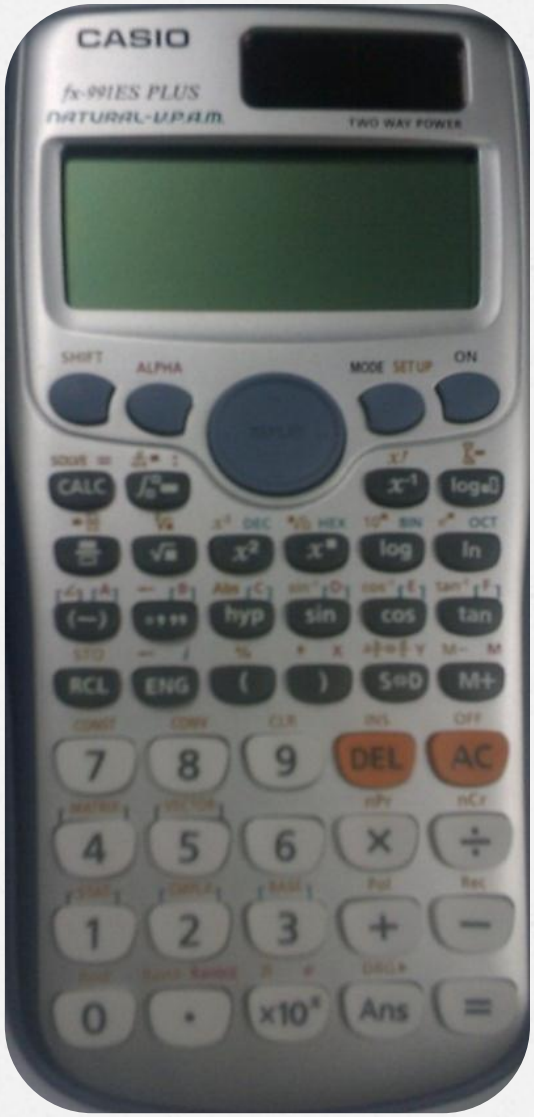

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TRUE FEATURE:

- Can be used to simplify **70 - 80%** of the problems in ENGINEERING MATHEMATICS BOARD EXAM

HOW??

MATHEMATICS
Calculator Techniques

ALGEBRA

TRIGONMETRY

GEOMETRY

DIFFERENTIAL

CALCULUS

INTEGRAL CALCULUS

DIFFERENTIAL

EQUATIONS

PROBABILITY

STATISTICS

VECTOR ANALYSIS

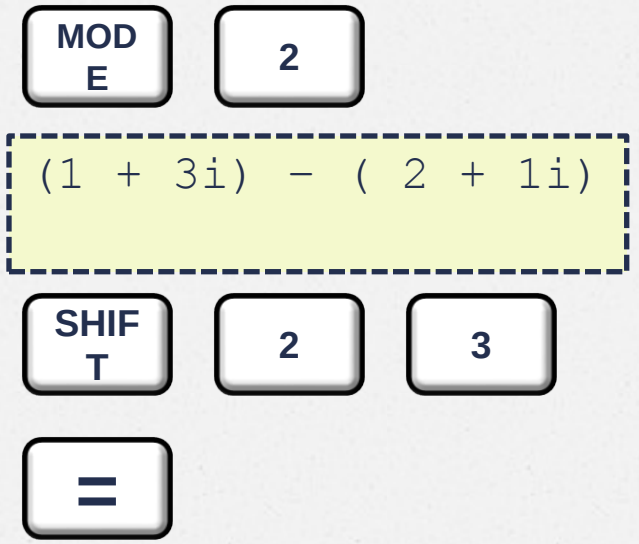
ADVANCED

MATHEMATICS

DISTANCE BETWEEN TWO POINTS

Find the distance between two points A(1,3) and B(2,1).

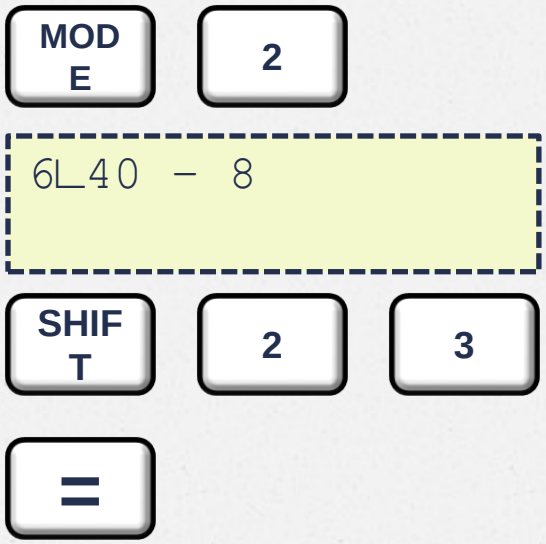
A. 2 units
B. sqrt (5) units
C. sqrt (3) units
D. sqrt (2) units



COSINE LAW

Two sides of triangle measures 6 cm and 8 cm and their included angle is 40°. Find the third side.

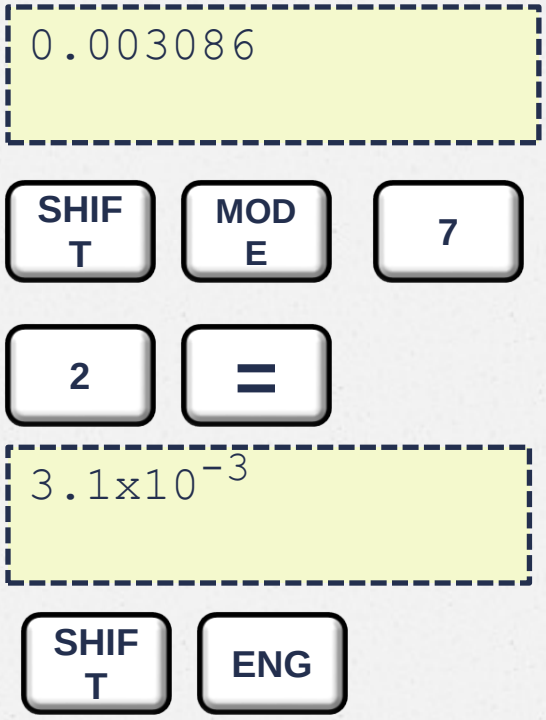
A. 5.144 cm
B. 4.256 cm
C. 5.263 cm
D. 5.645 cm



SIGNIFICANT FIGURES

Round off 0.003086 to two significant figures.

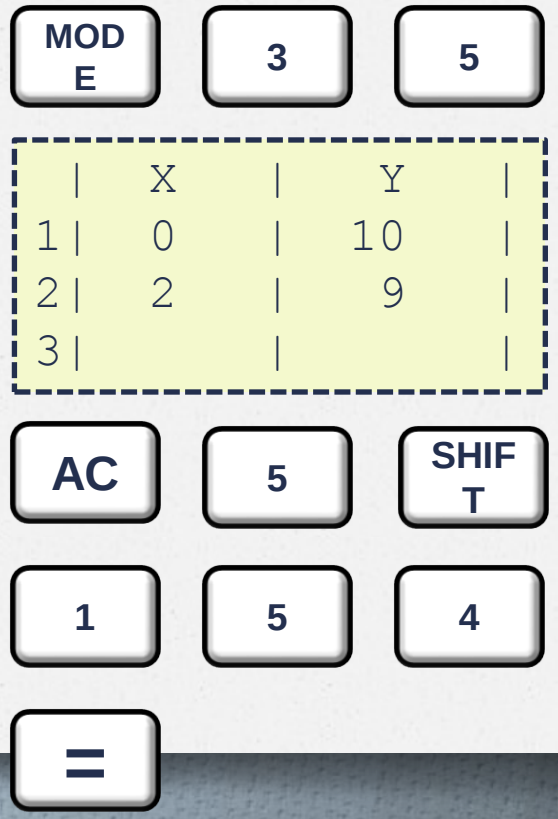
A. 0.0031
B. 0.0030
C. 0.003
D. 0.3 x 10^-2



GROWTH/DECAY D.E. PROBLEMS

A radioactive substance decreases from 10 grams to 9 grams in two hour. Find its half life.

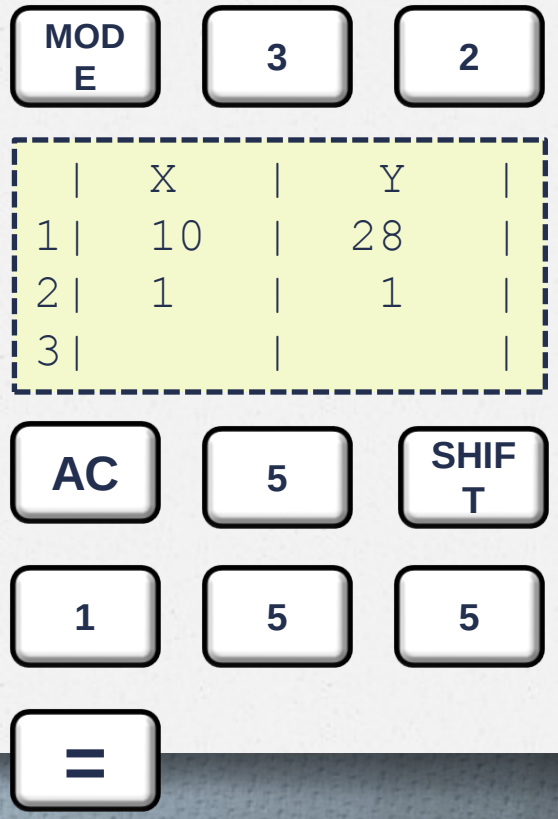
A. 10.19 hr
B. 11.49 hr
C. 12.89 hr
D. 13.16 hr



ARITHMETIC PROGRESSION

The 10th term of an A.P. is 28 and the first term is 1. Determine the product of 5th and the 7th term.

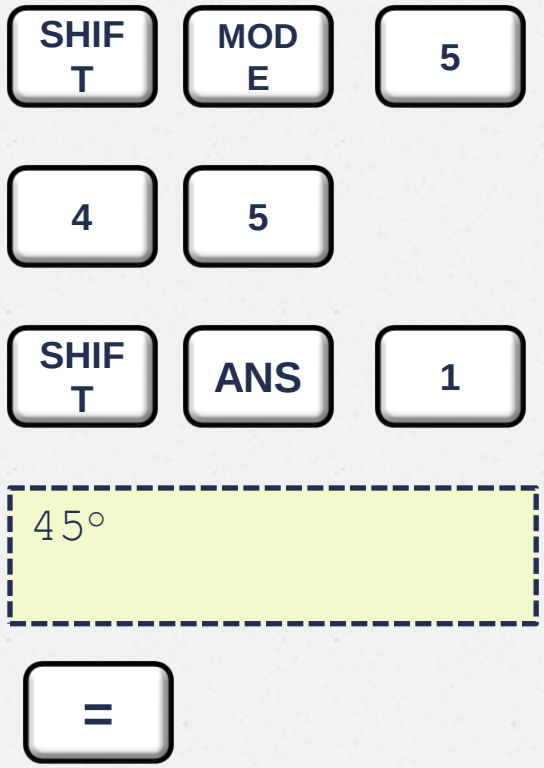
A. 247
B. 413
C. 142
D. 625



CONVERSION BETWEEN ANGLE MEASURES

Express 45° in grad.

A. 5000 grad
B. 50 grad
C. 500 grad
D. 5 grad



CALC FUNCTION

Find the volume of a spherical segment in cu.m, the radii of bases are 4 m and 5 m respectively with an altitude of 2 m.

$$V = \frac{\pi h}{6}(3a^2 + 3b^2 + h^2)$$

A. 113
B. 123
C. 133
D. 143

```
πX
---(3A² + 3B² + X²)
 6
```

CAL C

COLON FUNCTION

The sides of a triangle are 14 cm, 15 cm and 13 cm. Find the area of the circumscribing circle.

A. 207.4 sq. cm
B. 215.4 sq. cm
C. 209.6 sq. cm
D. 220.5 sq. cm

COMBINATORICS

In how many ways can a picture be painted by using three (3) or more of the seven (7) different colors?

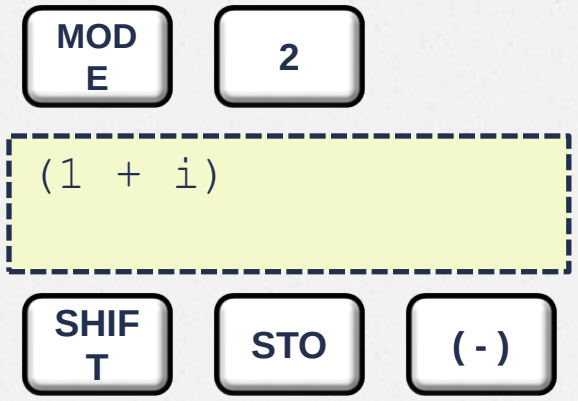
A. 80
B. 99
C. 105
D. 120

$$\sum_{3}^{7} 7CX$$

POWER OF A COMPLEX NUMBER

Find the value of (1+i)^8, where i is an imaginary number.

A. -16
B. 16
C. -4+4i
D. 4+i



WORK PROBLEM

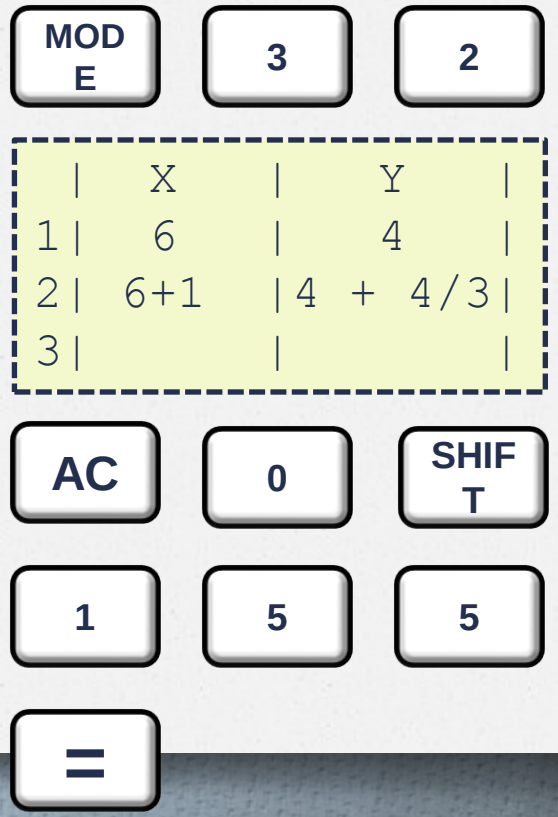
A tank is filled with two pipes. The first pipe can fill the tank in 10 hours. But after it has been opened for 3 and 1/3 hours, the second pipe is opened and the tank is filled up in 4 hours more. How long will it take the second pipe alone to fill the tank? The two pipes here have different diameters.

A. 15
B. 10
C. 17
D. 12

ANALYTIC GEOMETRY: LINES

Find the value of y if a line having a slope of 4/3 and passing through point (6,4) intersects the y – axis.

A. – 4
B. 4
C. – 6
D. 6



THANK YOU!

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