

ClassPad II - Basic Skills

ClassPad Help Series movies are shown [\[911, 912\]](#)

ClassPad OS update from <http://edu.casio.com>

Main

- Check settings at bottom of screen: Alg - Standard/Decimal - Real - Deg
- Always use variables from the VAR menu
- Main->Settings->Basic Format and select **Normal 2** as Number Format
- Learn shift keys

M1. [\[007, 010\]](#) Calculate the following

- (a) $12 \div 2300$ (b) last digit of 3^{50} (c) $\frac{1}{4} + \frac{2}{3}$ as a fraction (d) $\sqrt{12}$.

Ans: 0.005217, ...9, 11/12, 3.464

M2. [\[010\]](#) Evaluate these expressions: *Substitute using |*

- (a) $x^2 - 2x$ when $x = -3.6$ (b) $(a^2 - 5b)^3$ when $a = 2.2$ and $b = \frac{1}{3}$.

Ans: 20.16, 78.65

M3. [\[202\]](#) Solve the following for the unknown: *use solve*

- (a) $\frac{3x+1}{5} + \frac{5x-1}{4} = 24$ (b) $3.5^2 + b^2 = 5.5^2$ (c) $220 = \pi(5.2)^2 h$.

Ans: x=13, b=4.24, h=2.59

M4. [\[208\]](#) Re-arrange for y: $3x + 2y = 24$ and for b: $a^2 + b^2 = c^2$ (*use solve*)

Ans: $y = -1.5x + 12$, $b = \sqrt{c^2 - a^2}$

M5. [\[206\]](#) Solve for x and y the sim equations $x + 2y = 6$ and $x = y + 3$.

Ans: x=4, y=1

M6. [\[302, 305\]](#) Graph $x + 2y = 6$ and $x = y + 3$ to find point of intersection.

Use *split screen main -> graph*

Ans: x=4, y=1

M8. [\[055\]](#) Create and store matrices of any size and perform calculations.

If $A = \begin{bmatrix} 7 & 8 \\ -6 & 9 \end{bmatrix}$ and $B = \begin{bmatrix} -5 & 13 \\ 12 & 4 \end{bmatrix}$ determine $2A-5B$, AB , A^2 . Ans: $\begin{bmatrix} 39 & -49 \\ -72 & -2 \end{bmatrix}$, $\begin{bmatrix} 61 & 123 \\ 138 & -42 \end{bmatrix}$, $\begin{bmatrix} 1 & 128 \\ -96 & 33 \end{bmatrix}$

Geometry - great for quick answers and checking

G1. [\[712, 714\]](#) Find the largest angle and area of a triangle with sides 25 cm, 20 cm and included angle of 55° .

Ans: 74.6° , 281.2 cm^2

G2. [\[716\]](#) A triangle has sides 17 cm, 24 cm and 29 cm. Find

- (a) size of the smallest angle and (b) area of a triangle

Ans: 35.9° , 204.8 cm^2

NumSolve [\[911, 912\]](#) - great for numerical solving of any equation

N1. If $A = 500(0.95)^n$, determine A when $n=12$ and n when $A=100$.

Ans: 270, 31.4

eActivity [\[601, 630, 631, 633\]](#) - can save/store common formulas, and more...

E1. Use the relationship $a^2 + b^2 = c^2$ to find c when $a=7.5$ cm, $b=8.5$ cm.

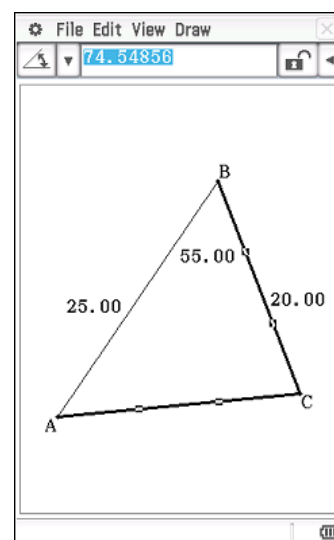
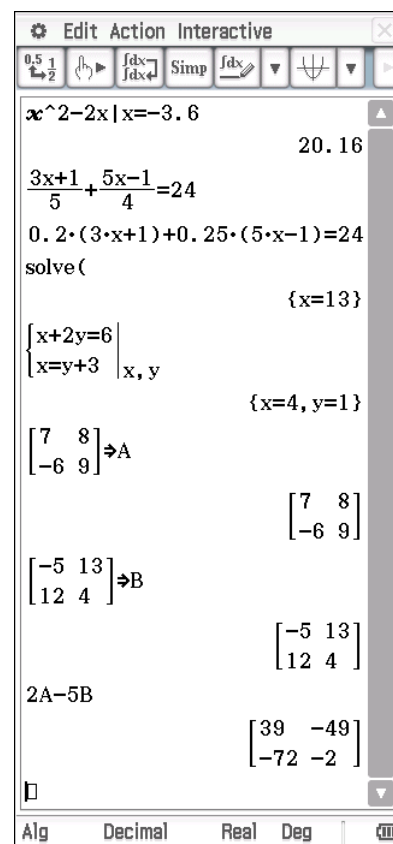
Ans: 11.3 cm

E2. Use the simple interest formula $I = PRT \div 100$ to find

- (a) I when $P=\$200$, $R=8.5\%$ and $T=0.5$ years

- (b) R when $I=\$351$, $P=\$5400$ and $T=2.5$ years

Ans: $\$8.50$, $2.6\% \text{ pa}$



Graph and Table [303, 304, 340] - can also graph from main application

- Use auto-scale sensibly by setting x-min and x-max first.
- Use *Root, Max, Min, y-Intercept, Intersect, Inflection, y-cal* and *x-cal* from Analysis, G-Solve menu.
- Use *Tangent* from Analysis, Sketch menu.

GT1. Sketch the graph of $y = x^3 - 3x^2$ for $-2 \leq x \leq 2$.

GT2. Taxi fares in \$ for n km journey given by $F1=2.50+1.85n$ and $F2=4.80+1.60n$. Graph fares for $0 < n < 20$ km. What distance are both fares the same?

Ans: 9.2 km

Statistics - type carefully and slowly

ST1. [411, 441] Determine the coefficient of determination between x and y and use the linear regression line y on x to predict y when (i) x=40 (ii) x=70 using this data:

x	29	35	47	50	59
y	51	69	83	98	121

Ans: 0.966, $y=2.198x-12.308$, 75.6, 141.5

ST2. [402] Calculate the mean and standard deviation for this frequency distribution.

Age	12	13	14	15	16
Frequency	2	4	9	6	5

Ans: 14.31, 1.169

ST3. [403, 404, 405] Compare distribution of daily scores for Week 1 and Week 2 using two box plots: Week1: 9, 5, 4, 7, 3, 8, 6 Week2: 6, 1, 2, 3, 5, 8, 4

Ans: See screen shot at right

Sequence [800] - always check the recursion 'type' setting

S1. [802] Find the 20th term of the sequence given by $T_{n+1} = 1.2T_n$, where $T_1 = 12$, correct to 2 dp.

Ans: 383.38

S2. Sketch a graph of the recurrence relation $T_{n+1} = -0.5T_n + 6$, where $T_1 = 2$, and hence describe the long-term behaviour of this sequence.

Ans: Steady state (tends to 4)

Spreadsheet [500] - doubtful use in exams and pretty fiddly, but can be useful

- Beware alternating styles of cell selection

SS1. Create a table of values to find BMI [=Wt(kg)/Ht(m)] for weights from 50 to 65 kg and heights from 1.6 to 1.85 m.

Ans: See screen shot below

	A	B	C	D	E
1	BMI	Wt (...)			
2	Ht (m)	50	55	60	65
3	1.6	31	34	38	41
4	1.65	30	33	36	39
5	1.7	29	32	35	38
6	1.75	29	31	34	37
7	1.8	28	31	33	36
8	1.85	27	30	32	35

=fRound(B\$2/\$A3, 0) ✓

How to download eActivities, programs, etc on to your ClassPad: Video 991 at www.classpad.com.au

How To Update OS: Video 990 at www.classpad.com.au

Financial [922] - mandated use in Applications Unit 4

F1. Calculate the future value of \$2000 invested at 6% pa compounded monthly over 3 years.

Ans: \$2393.36

System

- Name - Power Properties - Reset to fix problems (and Initialize if that doesn't work).

