

Graphics Calculator Skill Drill Sheet 1 SOLUTIONS

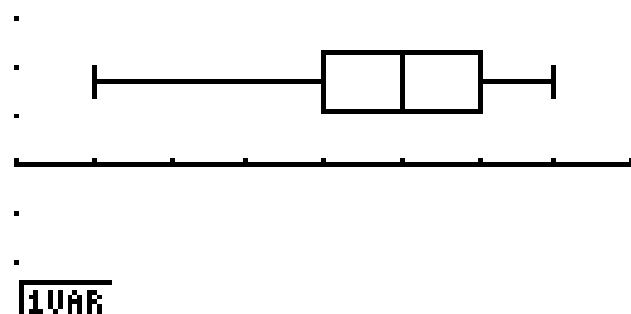
- 1) What is 3 hrs 58 min later than 4:17pm? **20:15 (8:15pm)**
- 2) Convert 24 degrees, 45 minutes and 17 seconds to degrees to 2 decimal places **24.75°**
- 3) Calculate $\sin 6.3$ radians as a decimal to 3sf **0.0168**
- 4) Calculate $\sqrt[5]{12583}$ to 4sf **6.606**
- 5) $3.67 \times 10^{23} \div (5.23 \times 10^{14}) =$ **701 720 841 = 702 000 000 (3sf)**
- 6) Calculate s to the nearest minute: $\sin s = 0.112$ **6° 26'**
- 7) How many ways can you choose 'President, Vice President and Secretary' from a group of 12 people? **1320**
- 8) Convert 72.86 degrees to degrees, minutes and seconds
72° 51' 36"

9) STATISTICS:

Score	Frequency
2	4
3	5
4	7
5	12
6	23
7	18
8	11

Find the:	
Mean =	5.79 (2dp)
Mode =	6
Std Devn (2dp) =	1.61
Smple Std Dev'n =	1.62
Lowest score =	2
Lower Quartile =	5
Median =	6
Upper Quartile =	7
Highest Score =	8

BOX AND WHISKER PLOT:



- 10) Calculate r to the nearest minute: $\sin r = 0.512$
30° 48'

- 11) For $t = \frac{\sqrt{h-y}}{5}$, $t = 7$, $h = 13$. Find y $y = -1212$
- 12) Enter this equation into EQUA: $A = (B-C)^N$
Now using DEL, change the equation to $A = (B-C)^N$
- 13) Calculate $\cos 89.12$ degrees as a decimal to 4sf **0.01536**
- 14) What time is 7 hours 27 minutes before 3:06 pm? **7:39am**
- 15) a) Calculate $\sqrt[3]{278}$ to 3sf **6.53**
b) Calculate $3\sqrt{278}$ to 3sf **50.0**
- 16) $4.97 \times 10^{35} \div (9.56 \times 10^{29}) =$ **519874 = 520 000 (2sf)**
- 17) Calculate the value of $\sin 12$ radians (2 sf) **- 0.54**
- 18) Calculate $0.002 \div 340000$ (Sci Ntn 3sf) **5.88×10^{-9}**
- 19) Calc m to the nearest minute: $\tan m = 1.125$ **$48^\circ 22'$**
- 20) Find the equation of the straight line which passes through
(1, 5) and (27, 51) **$y = 1.77X + 3.23$**

List 1	List 2
1	5
27	51

- 21) How many 4 person committees can be formed from a group of 12 people? **495**
- 22) Consider $a = \frac{b+c}{d+e}$ (use EQUA)
If $a = 21$, $b = 13$, $c = 4.5$, $d = -2$, find e (to 3sf).
 $e = 2.83$ (3sf) ... (NOT 10.2!! & NOT 2.56!!)
- 23) a) Calculate $\sqrt[4]{3579}$ to 2sf **7.7 (2sf)**
a) Calculate $4\sqrt{3579}$ to 2sf **239.3 = 240 (2sf)**
- 24) In how many ways can 6 books be arranged on a shelf? **720**
- 25) Calc the value of $\cos 1.4$ grades (2 sf) **0.9998 = 1.0 (2sf)**

- 36) a) For $m = \frac{b\sqrt{c}}{4-n}$, $m = 123$, $b = 5$, $c = 17$. **3.83 (2dp)**
- 37) Calculate $\sin 3.1$ radians as a decimal to 3dp **0.0416**
- 38) Convert 191 degrees, 4 minutes and 37 seconds to degrees to 1dp. **191.1°**
- 39) The 9 digits, 1 to 9, are written on cards. How many different groups of 5 cards can be made from the 9? **126**
- 40) What time is 17 hours and 4 minutes before 8:01 am Friday? **14:57 Thursday**
- 41) $3.84 \times 10^{-12} \div (4.72 \times 10^{18}) =$ **8.1×10^{-31} (2sf)**
- 42) Calculate c to the nearest minute: $\sin c = 0.502$ **$30^\circ 8'$**
- 43) In how many different ways can you arrange 5 books on a shelf if you have 8 books to choose from? **6720**
- 44) STATISTICS

Consider the following data:

12, 19, 2, 7, 4, 5, 2, 7, 9, 21, 17, 7, 4, 8, 7, 12, 16, 21, 7, 7, 8, 23, 6, 7, 13, 7, 32, 7, 21, 7, 18

From the above data calculate the following:

Standard deviation = **7.11 (2dp)**
 Sample standard deviation = **7.23 (2dp)**
 Median = **7**
 Mode = **7**
 Mean = **11.06 (2dp)**
 Lower quartile = **7**
 Upper quartile = **17**

BOX PLOT:

StatGraph1



⌘

Q3 = 17

Graphics Calculator Skill Drill Sheet 3 Name: _____

- 45) Calculate $0.03 \div 34\,600\,000$ and write in scientific notation (to 2sf) **8.7×10^{-10}**
- 46) Calculate $\tan 14.8$ radians as a decimal to 4sf **-1.281**
- 47) What time is 18 hours 27 min before 11:36 pm? **$5:09 \text{ am}$**
- 48) Calculate $\sqrt[9]{35000}$ to 2sf **3.2**
- 49) Calculate $\sin 47$ degrees, 15 minutes, 4 seconds as a decimal to 3dp **0.734**
- 50) The 9 digits, 1 to 9, are written on cards. How many different 5 digit numbers can be made from the 9 digits? **15120**
- 51) Equation, straight line passing (2, 9) and (14, -3) **$y = -x + 11$**

List 1	List 2
2	9
14	-3

- 52) Calculate t to the nearest second: $\cos t = 0.902$
 $25^\circ 34' 40''$
- 53) Consider the following formula:
- $$N = M \left\{ \frac{(1 + r)^n - 1}{r(1 + r)^n} \right\}$$
- Find M if $N = 145000$, $n = 80$, $r = 0.02$ **$M = 3650 (3sf)$**
- 54) Calculate $12 \div 45\,005$ and write in scientific notation to 3 sig figs. **2.67×10^{-4}**
- 55) Convert 241 degrees, 85 minutes and 57 seconds to degrees to 3 decimal places. **242.433°**
- 56) $(3.95 \times 10^{34} + 2.74 \times 10^{33}) \div (7.47 \times 10^{23}) =$ **$5.7 \times 10^{10} (2sf)$**
- 57) Calculate $\cos 8$ degrees, 33 minutes, 15 seconds as a decimal to 3dp. **0.989°**

- 58) Find the equation of the straight line which passes through (0, 340) and (149, -323) $y = -4.45x + 340$

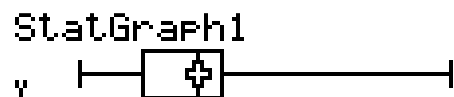
List 1	List 2
0	340
149	-323

- 59) Convert 22.05 degrees to degrees, minutes and seconds $22^\circ 3' 0''$

- 60) DATA
 Sample Standard Deviation = 7.624 (4sf)
 Median = 23
 Inter Quartile range = $(25 - 18) = 7$

Score	Frequency
12	4
15	6
18	12
23	16
25	12
32	6
43	3
46	1

BOX AND WHISKER PLOT:



⌘

Med = 23

- 61) Calculate the value of $\cos 2.1$ radians (2sf) -0.50
- 62) What time is 15 h 27 min before 9:15 pm Monday? $5:48$ Monday
- 63) Calculate $\sqrt[8]{24000}$ to 4dp 3.5280
- 64) How many 6 person committees (no rank between members) can be formed from a group of 22 people? 74613
- 65) Calculate $\sin 17$ degrees, 49 minutes, 45 seconds as a decimal to 3sf 0.306

Graphics Calculator Skill Drill Sheet 4 Name: _____

66) Calculate the value of $\tan 2.1$ grades (3sf) **0.033**

67) a) Calculate $6\sqrt{27367}$ to 2sf **990 (2sf)**

a) Calculate $\sqrt[6]{27367}$ to 2sf **5.5 (2sf)**

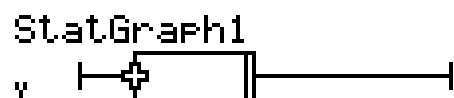
68) DATA

45, 56, 23, 67, 45, 72, 45, 24, 47, 45, 25, 45, 24, 34, 45, 61, 27,
36, 45, 52, 37, 39, 29, 32

From the above data calculate the following:

Standard deviation = **13.22 (2dp)**
 Mode = **45**
 Mean = **41.7 (1dp)**
 Inter-quartile range = **(46 - 30.5) = 15.5**
 Highest Score = **72**

BOX PLOT:



⌘

Q1 = 30.5

69) Calculate $0.003 \div 3\ 000$ and write in scientific notation to 2 sig figs. **1.0×10^{-6}**

70) For the equation $d = \frac{m(t-5)}{\sqrt{x+n}}$, find t if $d = 23$, $m = 4$,
 $x = 16$, $n = -3$ **$t = 10.75$**

71) a) Calculate $\sqrt[4]{257000}$ to 5sf **22.516 (5sf)**
 b) Calculate $4\sqrt{257000}$ to 5sf **2027.8 (5sf)**

72) Calculate $\tan 48$ degrees, 23 minutes, 15 seconds as a decimal to 3dp. **1.126**

73) Equation, st line, through (0, 19) and (14, 0) **$y = -1.36x + 19$**

List 1	List 2
0	19
14	0

- 74) Calculate r to the nearest minute: $\tan r = 1.512$ **$56^\circ 31'$**
- 75) Calculate $0.0006 \div 3480$ as a decimal to 8 decimal places
 0.00000017
- 76) You are the cook for tonight's meal and mum says you have to include 3 veges. There are potatoes, carrots, spinach, peas, onions and pumpkin to choose from. How many ways can you choose the three vegetables? **20**
- 77) Calculate the value of $\sin 7$ radians (2 sf) **0.66**
- 78) What time and day is 17 hours 47 minutes before 3:06 am Friday? **9:19 am Thursday**
- 79) Calculate the value of $\cos 67^\circ 39' 12''$ (3 sf) **0.380**
- 80) In how many different arrangements can 5 people stand in a line? **120**
- 81) Convert 5.17 degrees to degrees, minutes and seconds
 $5^\circ 10' 12''$
- 82) Eqn straight line (12, -90) and (140, -32) $y =$ **$0.45x - 95.44$**

List 1	List 2
12	-90
140	-32

- 83) Calculate $3.79 \div 23794$ as a decimal (to 2sf) **0.00016**
- 84) Calculate c to the nearest minute: $\cos c = 0.102$ **$84^\circ 9'$**
- 85) Calculate $2.93 \div 8.7 \times 10^7$. Give answer both as a decimal and in scientific notation to 2 sig figs.
 0.000000034 and 3.4×10^{-8}
- 86) Eqn st line through (22, -49) and (0, -32) $y =$ **$-0.77x - 32$**

List 1	List 2
22	-49
0	-32

- 87) What time and day is 7 hours 27 minutes before 00:06 am Monday? **16:39 Sunday**
- 88) Calculate t to the nearest second: $\tan t = 0.702$ **$35^\circ 4' 8''$**