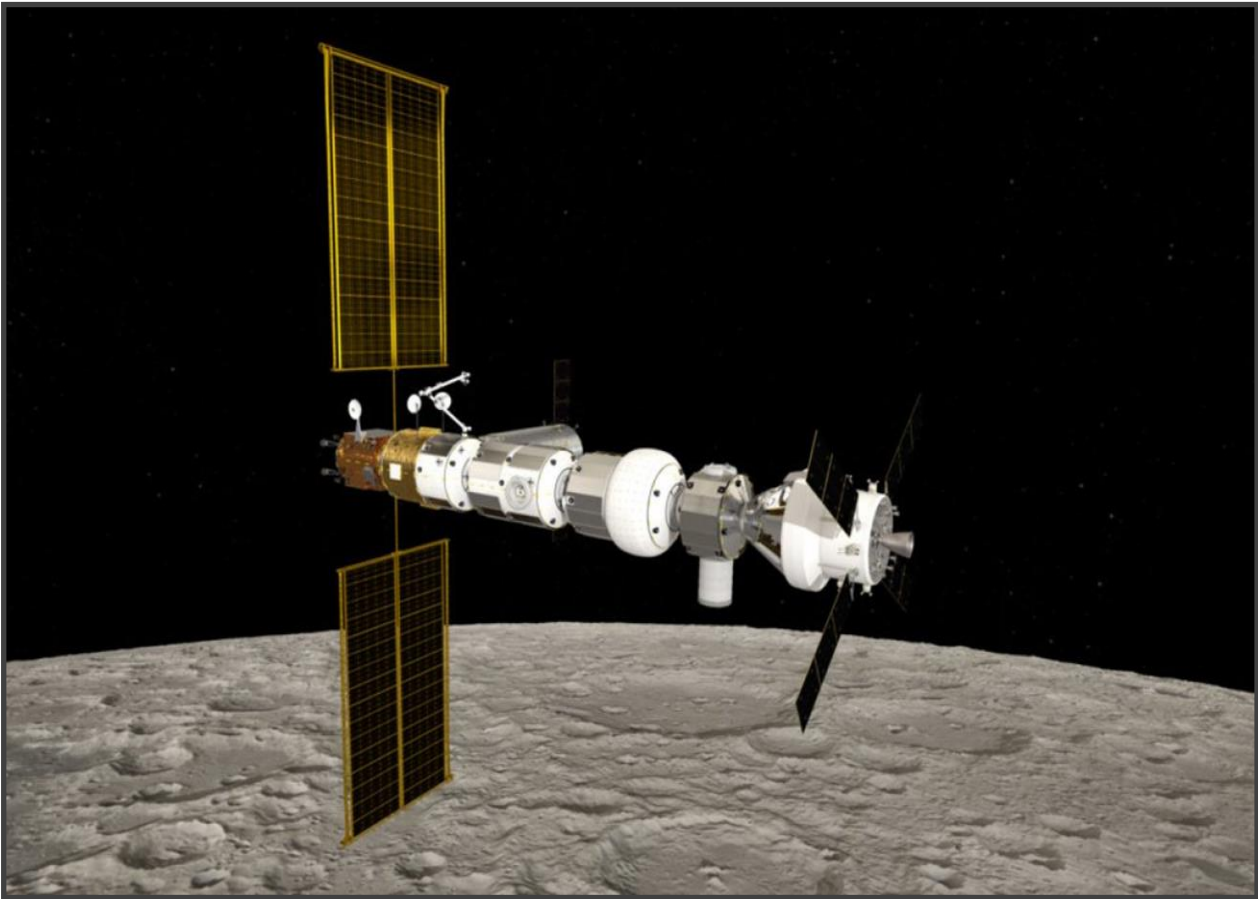# Spacegate Station Academy

Instructional Resources

- **Answers to Practice Problems for Lesson 1**

- **Answers to Practice Problems for Lesson 2**

- **Skype Program Calculations and Answers**

- **Lunar Orbit Navigation Chart**

- **ASCII Table**

Lesson 1

Practice 1

Determine the burn time to change orbit.

    1. Present location of the station   J21

    2. Desired location of the station   M21

    3. Distance from Present location   6,000 Km

    4. Present Orbital Velocity 9.84 Km/sec

    5. Answer - Burn Time   610 seconds

Practice 2

Determine the burn time to change orbit.

    1. Present location of the station F14

    2. Desired location of the station C14

    3. Distance from present location to desired location 5,000 Km.

    4. Present Orbital Velocity 8.87 m/sec

    5. Answer – Burn Time 564 seconds

Lesson 2

Problem 1

Input Data	Command 1	Command 2	Value	Command 3	ASCII Code
Present Orbit Location	Start of Text	Device Control 1	K27	Carriage Return	2114B3237D
Desired Orbit Location	File Separation	Device Control 2	M27	Null	1C124D32370

Problem 2

Input Data	Command 1	Command 2	Value	Command 3	ASCII Code
Present Orbit Location	Start of Text	Device Control 1	J21	Carriage Return	**2114A3231D**
Desired Orbit Location	File Separation	Device Control 2	M21	Null	**1C124D32310**

Problem 3

Input Data	Command 1	Command 2	Value	Command 3	ASCII Code
Present Orbit Location	Start of Text	Device Control 1	F14	Carriage Return	**211463134D**
Desired Orbit Location	File Separation	Device Control 2	C14	Null	**1C124331340**

Skype Program Calculations and Answers

Station Archived Burn Data

- The present location of the Station: **Zone N33**
- The desired location of the Station: **Zone L33**
- The Velocity of Spacegate Station: **8.45 Km/sec**

Answer:

- Distance from present to desired location: **3,000 KM**
- Burn Time: **355 seconds**

ASCII Translation

Input Data	Command 1	Command 2	Value	Command 3	ASCII Code
Present Orbit Location	Start of Text	Device Control 1	N33	Carriage Return	2114E3333D
Desired Orbit Location	File Separation	Device Control 2	L33	Null	1C124C33330
Burn Value					333535

Station Burn Data to avoid 2019OK

- The present location of the Station: **Zone M24**
- The desired location of the Station: **Zone N24**
- The Velocity of Spacegate station: **7.95 Km/sec**

Answer:

- Distance from present to desired location: **2,000 KM**
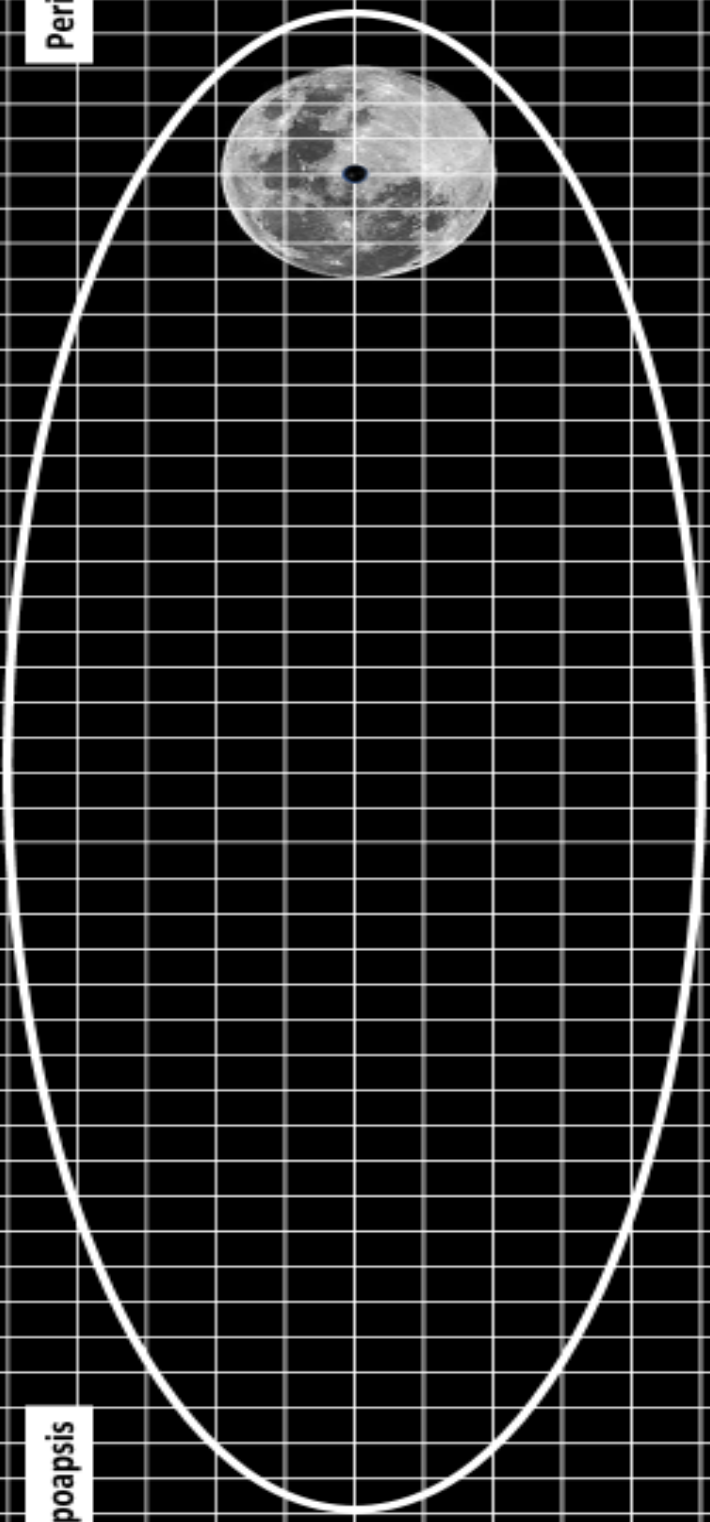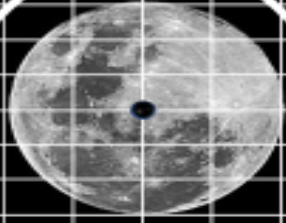- Burn Time: **252 seconds**
- ASCII Translation

Input Data	Command 1	Command 2	Value	Command 3	ASCII Code
Present Orbit Location	Start of Text	Device Control 1	M24	Carriage Return	2114D3234D
Desired Orbit Location	File Separation	Device Control 2	N24	Null	1C124E32340
Burn Value					323532

Spacegate Station Lunar Orbit Navigation Chart

1 Box equals 2,000 Kilometers

Periapsis

Apoapsis

ASCII TABLE

Hex	Char	Hex	Char	Hex	Char	Hex	Char
0	[NULL]	20	[SPACE]	40	@	60	`
1	[START OF HEADING]	21	!	41	A	61	a
2	[START OF TEXT]	22	"	42	B	62	b
3	[END OF TEXT]	23	#	43	C	63	c
4	[END OF TRANSMISSION]	24	$	44	D	64	d
5	[ENQUIRY]	25	%	45	E	65	e
6	[ACKNOWLEDGE]	26	&	46	F	66	f
7	[BELL]	27	'	47	G	67	g
8	[BACKSPACE]	28	(	48	H	68	h
9	[HORIZONTAL TAB]	29	)	49	I	69	i
A	[LINE FEED]	2A	*	4A	J	6A	j
B	[VERTICAL TAB]	2B	+	4B	K	6B	k
C	[FORM FEED]	2C	,	4C	L	6C	l
D	[CARRIAGE RETURN]	2D	-	4D	M	6D	m
E	[SHIFT OUT]	2E	.	4E	N	6E	n
F	[SHIFT IN]	2F	/	4F	O	6F	o
10	[DATA LINK ESCAPE]	30	0	50	P	70	p
11	[DEVICE CONTROL 1]	31	1	51	Q	71	q
12	[DEVICE CONTROL 2]	32	2	52	R	72	r
13	[DEVICE CONTROL 3]	33	3	53	S	73	s
14	[DEVICE CONTROL 4]	34	4	54	T	74	t
15	[NEGATIVE ACKNOWLEDGE]	35	5	55	U	75	u
16	[SYNCHRONOUS IDLE]	36	6	56	V	76	v
17	[ENG OF TRANS. BLOCK]	37	7	57	W	77	w
18	[CANCEL]	38	8	58	X	78	x
19	[END OF MEDIUM]	39	9	59	Y	79	y
1A	[SUBSTITUTE]	3A	:	5A	Z	7A	z
1B	[ESCAPE]	3B	;	5B	[	7B	{
1C	[FILE SEPARATOR]	3C	<	5C	\	7C		
1D	[GROUP SEPARATOR]	3D	=	5D	]	7D	}
1E	[RECORD SEPARATOR]	3E	>	5E	^	7E	~
1F	[UNIT SEPARATOR]	3F	?	5F	_	7F	[DEL]