The Insider's Guide to the Galaxy Presents...

Finest Minutes

a guide to completing RASC's Finest NGC Objects Observing List

Part 1 -

November 22nd – December 5th, 2022

The following pages include a list of objects discussed on November 22nd, 2022.
Including finder charts and log pages.

List of Targets Discussed:

Nov 22 – astronomical twilight ends around 6:30 pm, moonless

Try these three immediately after astronomical twilight (about 6:30 pm local time)

NGC	Constellation	Magnitude	Type	FNGC	Name
7009	Aqr	8.3	PN	001	Saturn Nebula / C55
7293	Aqr	6.5	PN	002	Helix Nebula / C63 / Eye of Sauron
View this one before 10 pm local time					
7331	Peg	9.5	G-Sb	003	Deer Lick Group / C30

The rest of this group is observable all evening

NGC	Constellation	Magnitude	Type	FNGC	Name
7635	Cas	10	EN	004	Bubble Nebula / C11
7789	Cas	6.7	OC	005	Caroline's Rose
0185	Cas	9.2	G-E0	006	Caldwell 18
0281	Cas	-	EN	007	Pacman Nebula

FNGC = Finest NGC List Number

Notes:

NGC 7009:

(41 by 35 arc-seconds)

Terrific object, but small! One of Herschel's first objects, H-IV-1 Near Saturn in Nov, 2022! Located 1.3° WSW of mag 4.5 star Albulan II (Nu Aqr) and about midway between 3 Aqr and Iota Cap. I star-hopped from Albulan. Use more magnification, from 150x to 300x, if conditions allow. Note its interesting shape and any colour, look for the central white dwarf. Try averted vision and OIII or UHC filters.

NGC 7293:

(25 by 13 arc-minutes)

Terrific! Huge, but faint! About 650 l-y away, one of the closest planetaries. Not a Herschel. Asteroid Vesta is nearby in Nov, 2022! Located within a triangle formed by Fomalhaut (Alpha PsA), Skat (Delta Aqr), and Deneb Algedi (Delta Cap). I star-hopped from Skat to g1,2 Aqr and u Aqr. Keep magnification low ~50x, and use averted vision and OIII or UHC filter. Note the shape, any colour, central star, field stars

NGC 7331

(10 by 4 arc-minutes)

Fantastic, large, spiral galaxy brightened by its oblique orientation. H-I-53 Named for where it was discovered. Located 4.4° NNW of mag 2.9 star Matar (Eta Peg). Double

the line from Sadalbari (Mu Peg) to Matar. Nice at 100x. Take note of the shape, orientation, the appearance of core and halo. Big apertures and very dark skies might reveal small background elliptical galaxies “the Fleas” and Stephan’s Quintet in same field to the SW.

NGC 7635

(15 by 8 arc-minutes)

Faint H2 region in northern sky. H-IV-52 Located between Cep and Cas just NE of Messier 52, a bit more than twice the line drawn from Schedar to Caph - or try and see mag 5 stars 1 Cas and 4 Cas that bracket it. Use ~50x. Look for the mag 8.7 central star. Describe the shape, field stars, use averted vision and try OIII or UHC filters.

NGC 7789

(30 arc-minutes)

Discovered by Caroline in 1783. H-VI-30 Huge and rich open cluster, very populous and dense, but faint. Located 2.8° SW of Caph near mag 4.5 star Rho Cas. Use low power and averted vision. Take note of overall shape, patterns in the stars – petals?

NGC 0185

(12 by 10 arc-minutes)

Good-sized dwarf spheroidal galaxy apparently gravitationally bound to M31, about 2 ml-y away. H-II-707 Located in the same region of sky as M31, midway between bright stars Caph and Mu And, 1° west of mag 4.5 star o Cas. Looks great at 80x to 100x. Note shape, orientation, field stars, characteristic of core and halo. Don’t use a filter! Watch for galaxy NGC 147 positioned 1° to the west

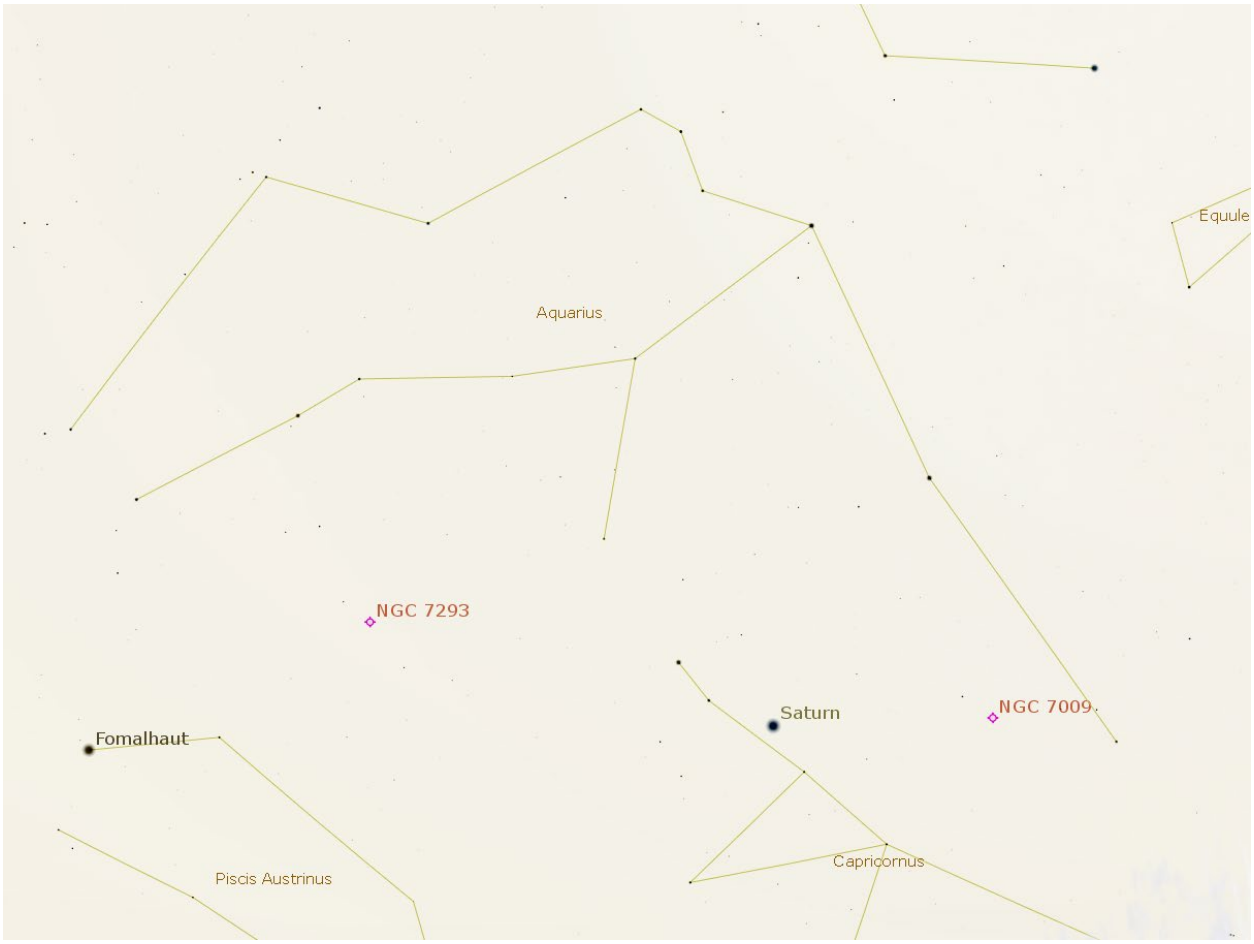
NGC 0281

(35 by 30 arc-minutes)

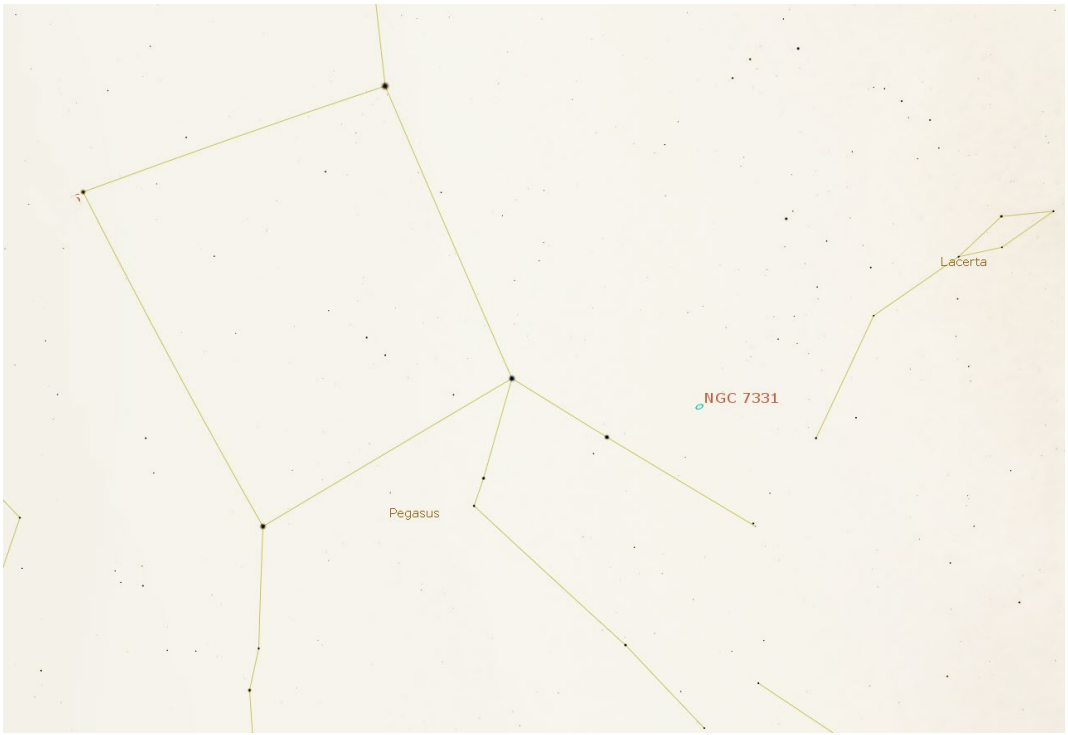
A large, but faint emission nebula that contains the open cluster IC 1590. Not a Herschel object. Located at the southwestern corner of an equilateral triangle composed of Schedar and Archird, i.e, to the right of those stars in evening. Shares a 1.5° FOV with Archird. Use low magnification ~50x and averted vision / OIII / UHC filter to see the nebulosity, but more power and no filter to resolve the pretty clump of stars in the centre. Note the overall shape, internal dark lanes, foreground stars, such as his “eye”.

Target Finder Charts:

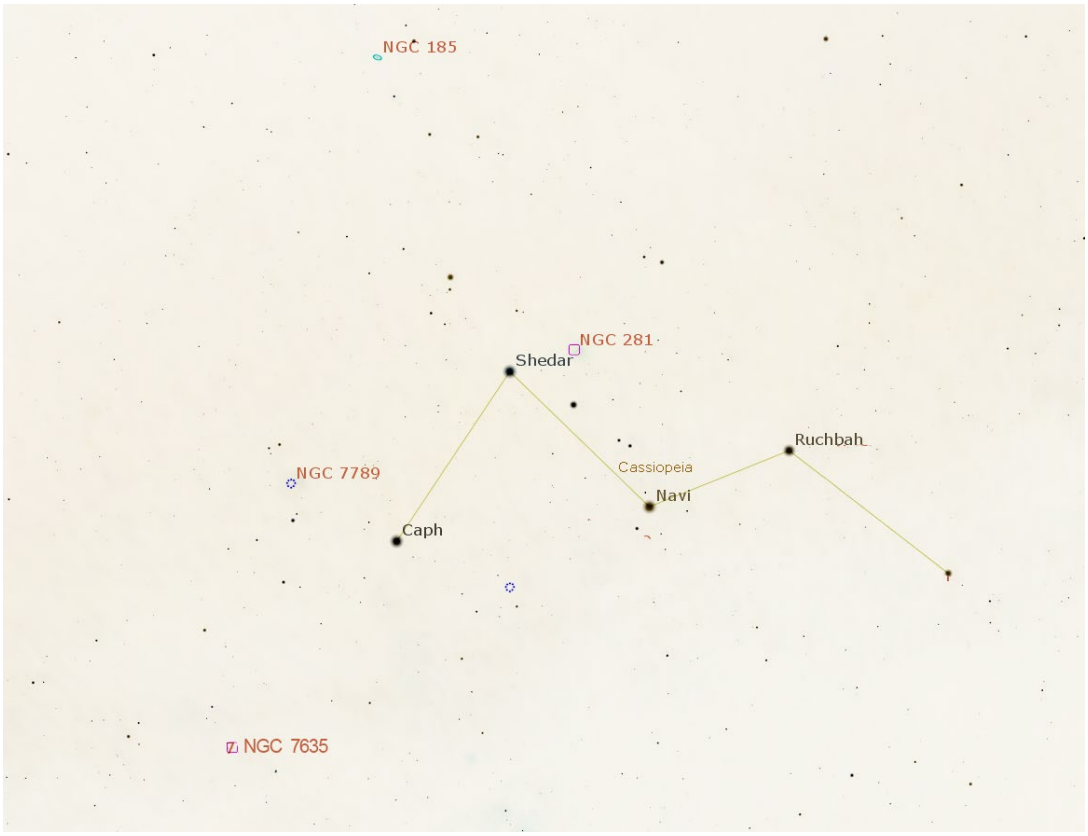
NGC 7009 & NGC 7293 Closer View –



NGC 7331 Closer View –



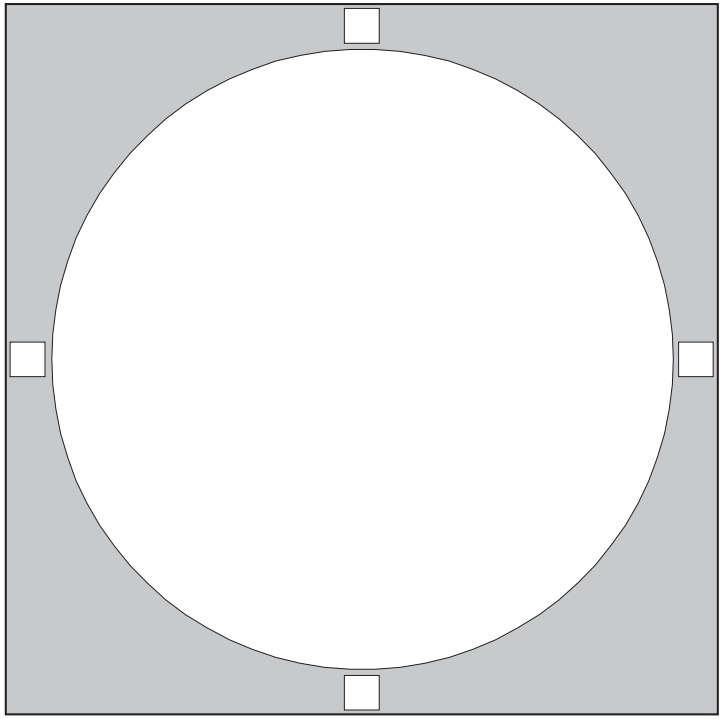
NGC 7635, NGC 7789, NGC 185 & NGC 281 Closer View –



RASC Finest NGC - 1

Saturn Nebula

NGC Number		**7009**	
Constellation		**Aquarius**	
Type		**PN**	
Visual Magnitude**		**8.3p**	
Size	Distance	**>25"**	**2,900 ly**
RA (Epoch 2000.0)		**21:04.2**	
Dec (Epoch 2000.0)		**-11:22**	
UM I	UM II	**299, 300**	**123**
Sky Atlas 2000		**16, 17**	
Season		**Autumn**	
Remarks***		**!! Saturn Nebula; small bright oval**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



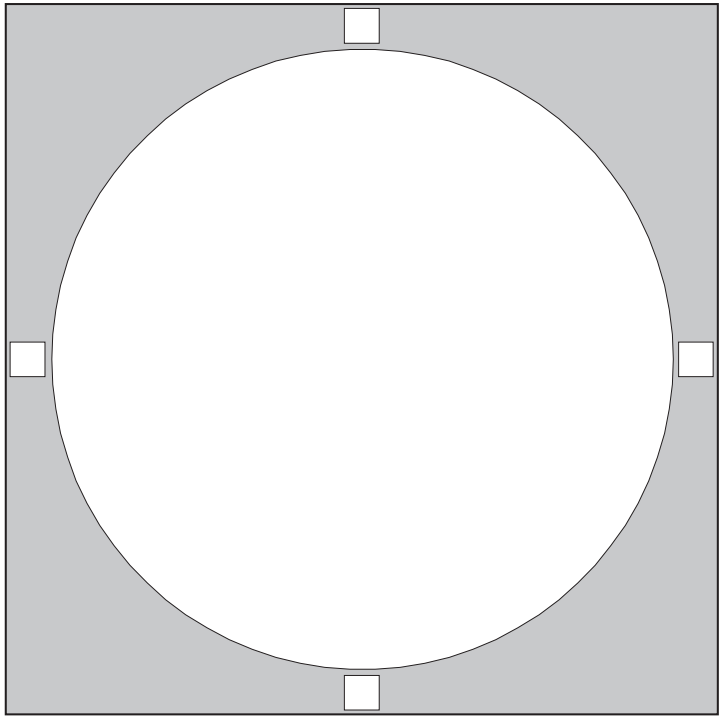
Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

RASC Finest NGC - 2

Helix Nebula

NGC Number		**7293**	
Constellation		**Aquarius**	
Type		**PN**	
Visual Magnitude**		**7.3**	
Size	Distance	**>12.0' 49"**	**425 ly**
RA (Epoch 2000.0)		**22:29.6**	
Dec (Epoch 2000.0)		**-20:48**	
UM I	UM II	**347**	**142**
Sky Atlas 2000		**23**	
Season		**Autumn**	
Remarks***		**!! Helix Nebula; large, diffuse; use filter**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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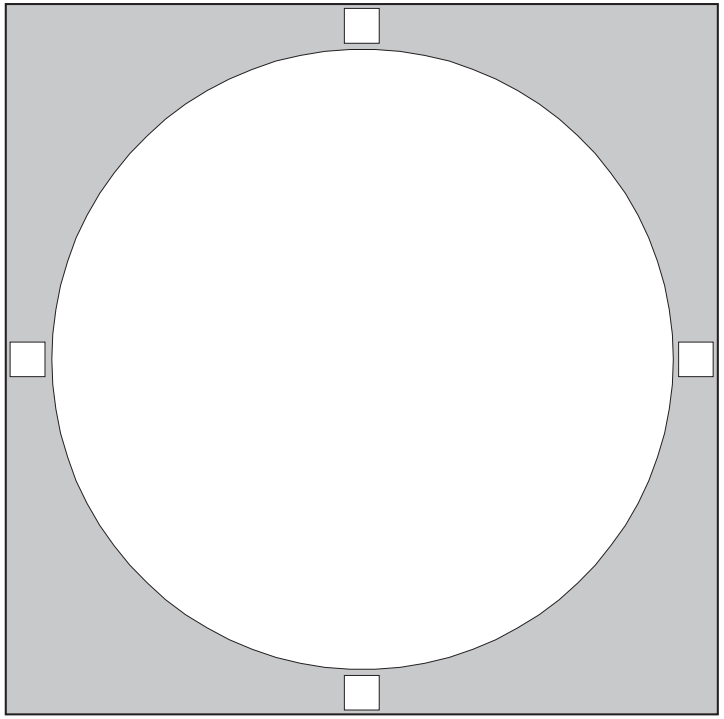
RASC Finest NGC - 3

Caldwell 30

NGC Number		**7331**	
Constellation		**Pegasus**	
Type		**G-SAb**	
Visual Magnitude**		**9.5**	
Size	Distance	**10.0' x 4.0'**	**48 million ly**
RA (Epoch 2000.0)		**22:37.1**	
Dec (Epoch 2000.0)		**+34:25**	
UM I	UM II	**123**	**46**
Sky Atlas 2000		**9**	
Season		**Autumn**	
Remarks***		**!! large, bright spiral galaxy**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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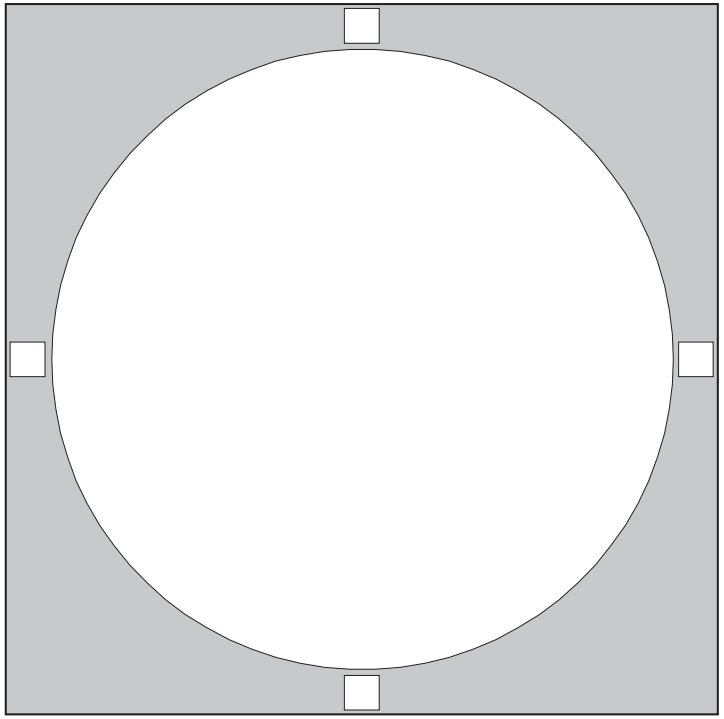
RASC Finest NGC - 4

Bubble Nebula

NGC Number		**7635**	
Constellation		**Cassiopeia**	
Type		**EN**	
Visual Magnitude**		**~11**	
Size	Distance	**15.0' x 8.0'**	**n/a**
RA (Epoch 2000.0)		**23:20.7**	
Dec (Epoch 2000.0)		**+61:12**	
UM I	UM II	**15, 34, 58**	**18**
Sky Atlas 2000		**3**	
Season		**Autumn**	
Remarks***		**Bubble Neb.; very faint; 1/2 deg SW of M52**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
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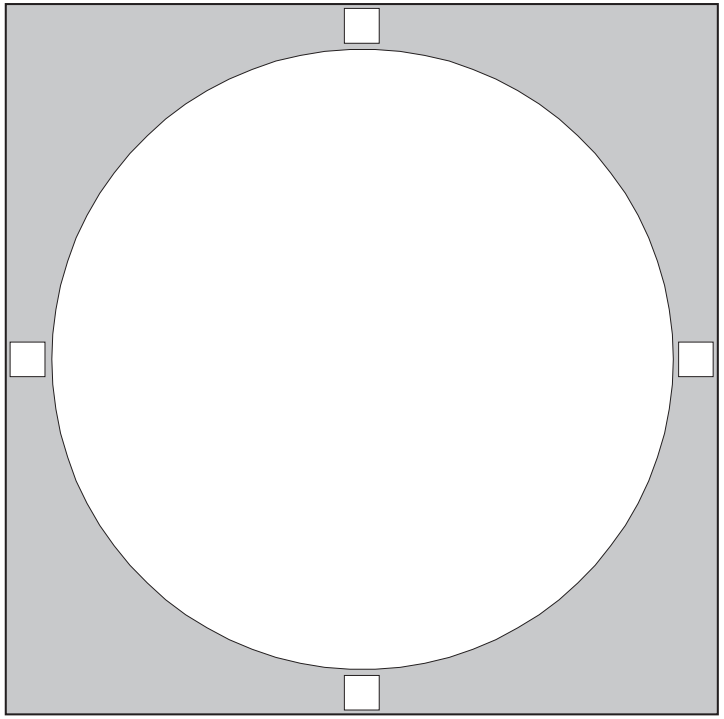
NGC Number		**7789**	
Constellation		**Cassiopeia**	
Type		**OC**	
Visual Magnitude**		**6.7**	
Size	Distance	**15.0'**	**6,200 ly**
RA (Epoch 2000.0)		**23:57.0**	
Dec (Epoch 2000.0)		**+56:44**	
UM I	UM II	**35**	**18**
Sky Atlas 2000		**1, 3**	
Season		**Autumn**	
Remarks***		**!! 300*; faint but very rich cluster**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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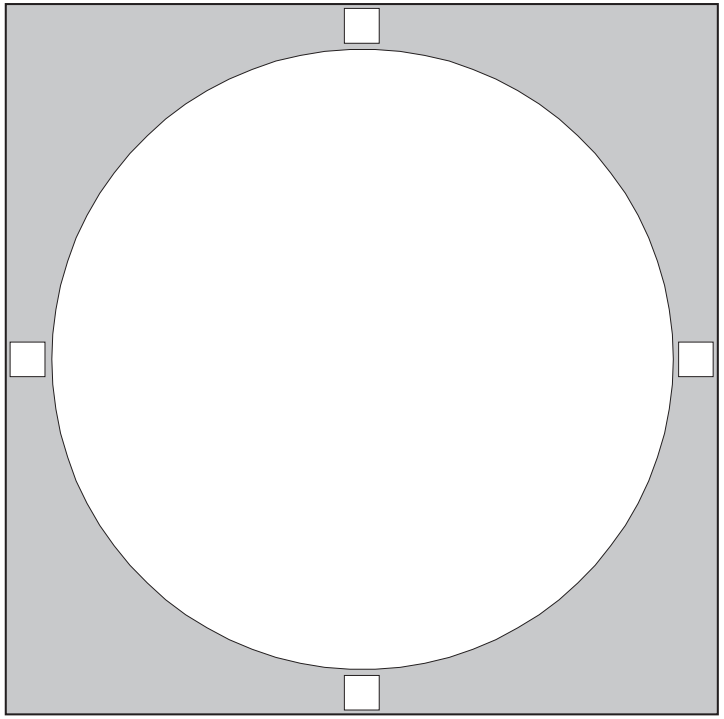
NGC Number		**185**	
Constellation		**Cassiopeia**	
Type		**G-E3**	
Visual Magnitude**		**9.2**	
Size	Distance	**14.0' x 12.0'**	**2.2 million ly**
RA (Epoch 2000.0)		**00:39.0**	
Dec (Epoch 2000.0)		**+48:20**	
UM I	UM II	**60**	**30**
Sky Atlas 2000		**4, 9**	
Season		**Autumn**	
Remarks***		**companion to M31; small and faint**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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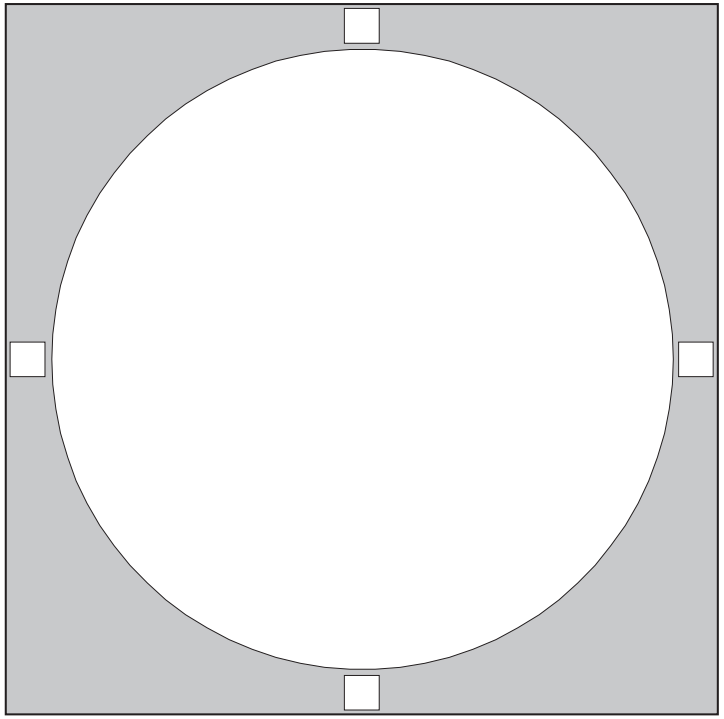
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

NGC Number		**281**	
Constellation		**Cassiopeia**	
Type		**EN**	
Visual Magnitude**		**7.4p**	
Size	Distance	**35.0' x 30.0'**	**n/a**
RA (Epoch 2000.0)		**00:52.8**	
Dec (Epoch 2000.0)		**+56:37**	
UM I	UM II	**36**	**18**
Sky Atlas 2000		**1**	
Season		**Autumn**	
Remarks***		**!! large faint nebulosity near eta Cas**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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