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

Finest Minutes

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

Part 2 -

December 6th – December 19th, 2022

The following pages include a list of objects discussed on December 6th, 2022.
Including finder charts and log pages.

List of Targets Discussed:

Dec 6 – astronomical twilight ends around 6:00 PM, nearly full moon (so wait a week to observe)

View this one around 7:30 PM

NGC	Constellation	Magnitude	Type	FNGC	Name
0253	Scl	7.1	SG	013	Sculptor Galaxy / C65

The rest of this group is observable all evening

NGC	Constellation	Magnitude	Type	FNGC	Name
7662	And	9.2	PN	011	Blue Snowball Nebula / C22
0457	Cas	6.4	OC	008	ET / Owl / Dragonfly Cluster / C13
0663	Cas	7.1	OC	009	Lawnmower Cluster / C10
0772	Ari	10.3	SG	014	Fiddlehead Galaxy
IC 289	Cas	12.3	PN	010	
0891	And	10	SG	012	Silver Needle / C23

FNGC = Finest NGC List Number

Notes:

NGC 0253:

(27x7 arc-minutes)

This very large and bright nearly edge-on spiral galaxy was discovered by Caroline H on Sep 23, 1783 (HV-1). Tricky to see because it is confined to a low elevation in Canada due to its 25 degrees S declination. View it when it culminates at 7:30 pm local time in mid-December. It is visible in binoculars when higher in the sky and in any size of telescope. It is located 7.5 degrees south of Deneb Kaitos (Beta Ceti), or midway between Fomalhaut and Sigma Ceti. If you can see the mag 4.3 star Alpha Sculptoris, it's on the line from there up to Beta Ceti. Note the galaxy's size, shape, orientation and the character of the core and disk. At 11.4 ml-y away, it is one of the closest to us. Watch for the globular cluster NGC 288 just 1.7 degrees to the SE.

NGC 7662:

(37x16 arc-seconds)

It is a small, but relatively bright planetary nebula discovered by WH on Oct 6, 1784 (HIV-18). Its location makes an equilateral triangle on the north (Polaris) side of Alpheratz and Scheat. If you can see the mag 3.8 stars Omicron and Lambda Andromedae, you can place your finder/telrad midway between them and offset by 2 degrees (i.e., the outermost telrad ring) to their left (celestial SSE), i.e., toward the Great Square. Or, start at Lambda and hop to Kappa, then Iota, then jog 2 degrees toward Omicron. Use lots of magnification if the seeing allows. Use an OIII or UHC filter to

brighten it with respect to the surrounding stars. Use averted vision to look for its shape and structure. Do you see the colour or the central star? I saw this one in the 74" telescope at DDO – in full colour! About 2,500 l-y away, maybe as much as 6,000 l-y.

NGC 0457

(20 arc-minutes)

A star party favorite! It was discovered by WH on Aug 18, 1780 (HVII-42). One of the best open clusters in Cas, it is located 2 degrees SSW of Ruchbah. I usually pretend it's the corner of the right-angle triangle where Ruchbah and Navi are the hypotenuse. It is visible in 10x42 binoculars, but looks amazing in any size of telescope, especially at 100x. Look for its distinctive shape, the eye stars, ET's finger, and any differently coloured stars. Note the many fainter stars and estimate the overall number of members. At least 5,200 l-y away.

NGC 0663

(15 arc-minutes)

A fantastic, rich open cluster discovered by WH on Nov 3, 1787 (HVI-31). It is located midway between Segin and Ruchbah (the shallower V end of Cass), but offset by 1 degree to their south. It is visible in binoculars and any size of telescope, but don't magnify it too much. Note its overall shape, the quantity and distribution of the brighter and fainter stars, note any differing star colours. Look for the nearby open clusters NGC 654 and 659. About 7,200 l-y away.

NGC 0772

(4.7x3.8 arc-minutes)

A Diffuse spiral galaxy with a distorted arm, hence its Arp 78 designation, discovered by WH on Nov 29, 1785 (HI-112). It is bright enough for smaller telescopes in a dark sky, but 6" or larger will work better. It is located east of the mag 4.5 star Mesarthim. Jump from Sheratan to Mesarthim, and then hop by the same span, forming a right angle toward Taurus. Note its size and any shape, describe the core versus disk. At least 114 ml-y away. Featured in the current SkyNews Beyond Messier!

IC 0289

(37 arc-seconds)

Not a Herschel discovery, it was discovered by Lewis Swift in Sep, 1888. This faint planetary nebula is located near the Soul Nebula, 2.6 degrees northwest of the medium-bright mag 4.25 star CS Cam, in the direction of Segin. I starhopped from CS Cam using a 1.5 degree FOV. There is a nice little asterism along the way. Note the nebula's shape, size, and any structure. Use an OIII or nebula filter to brighten it, and averted vision to see more detail. About 4,700 l-y away.

NGC 0891

(13x3 arc-minutes)

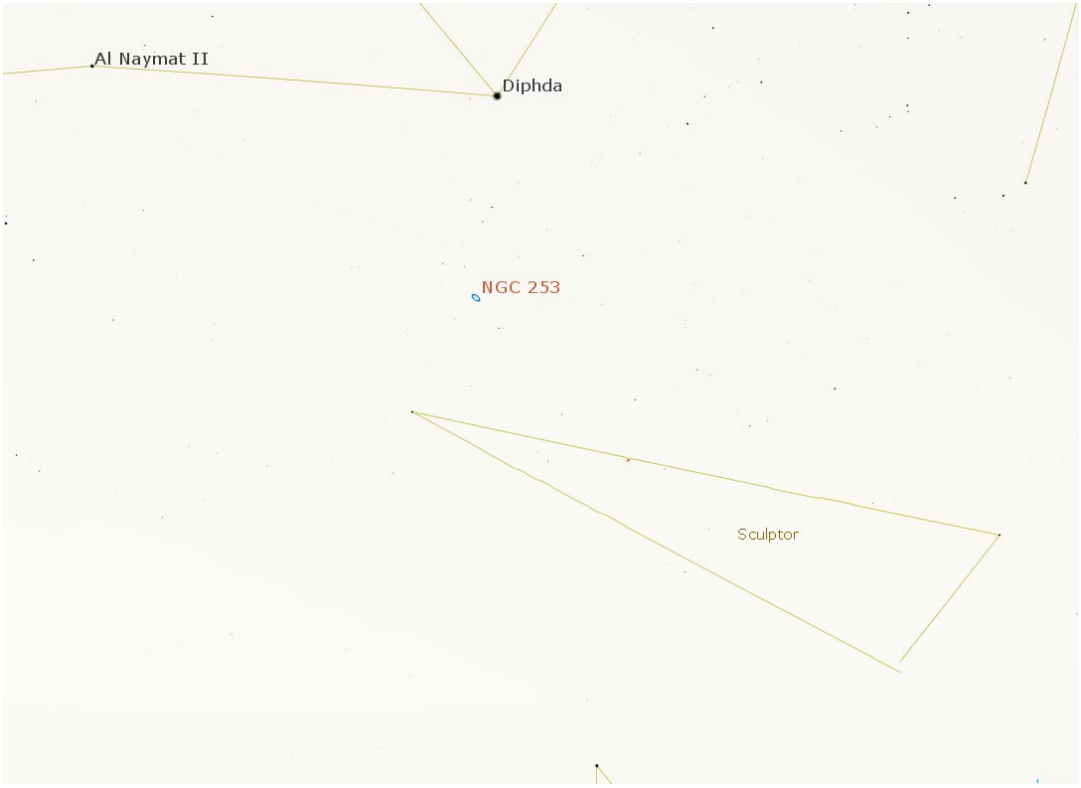
Faint, but reasonably large and impressive edge-on barred spiral galaxy with a dust lane was discovered by WH on Oct 6, 1784 (HV-19). It favours larger apertures and darker skies. It is located 3.6 degrees east of Almach, a third of the way along the line connecting Almach to Algol. Note its shape and orientation, and look for the dust lane, the relative brightness of the core and disk, and field stars. About 27 ml-y away!

Target Finder Charts:

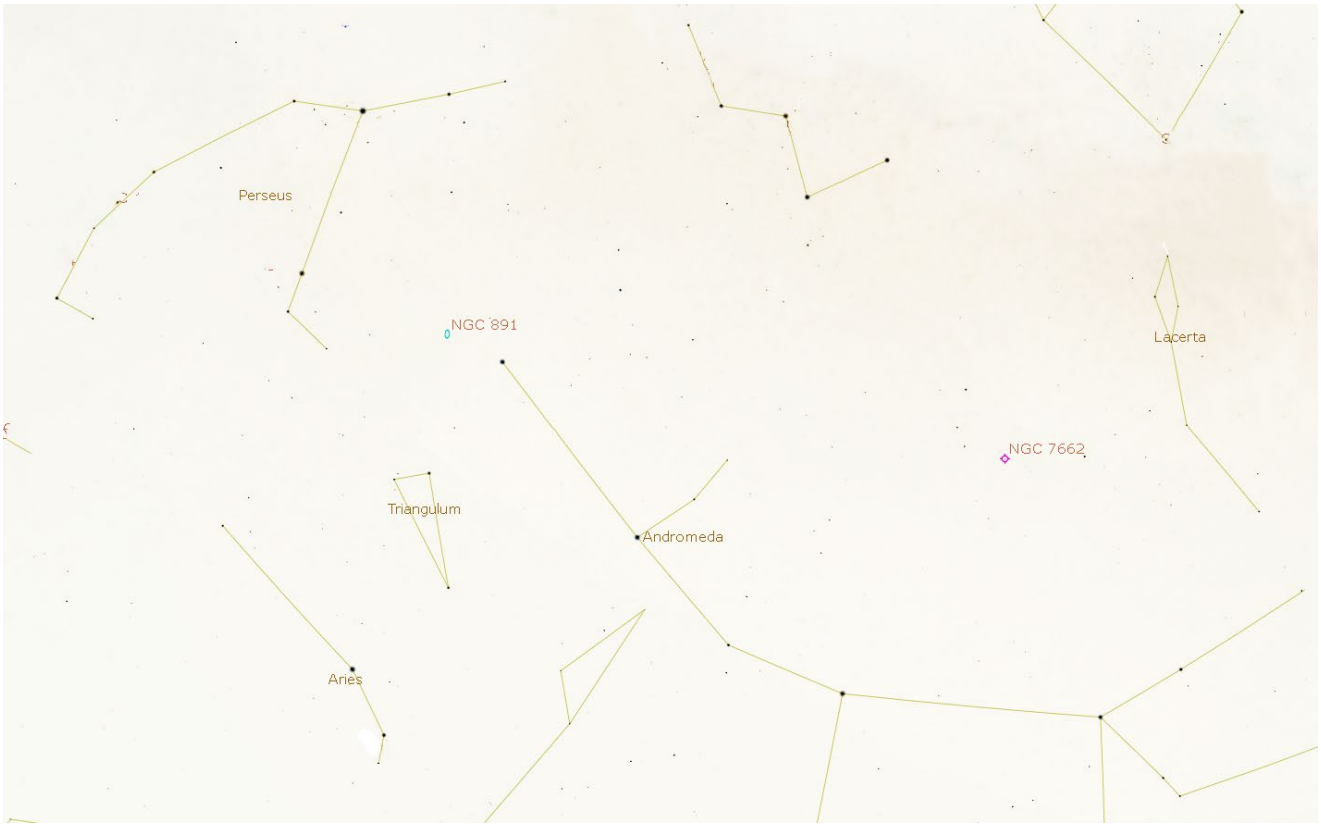
NGC 0457, NGC 0663 & IC 0289 Closer View –

NGC 0772 Closer View –

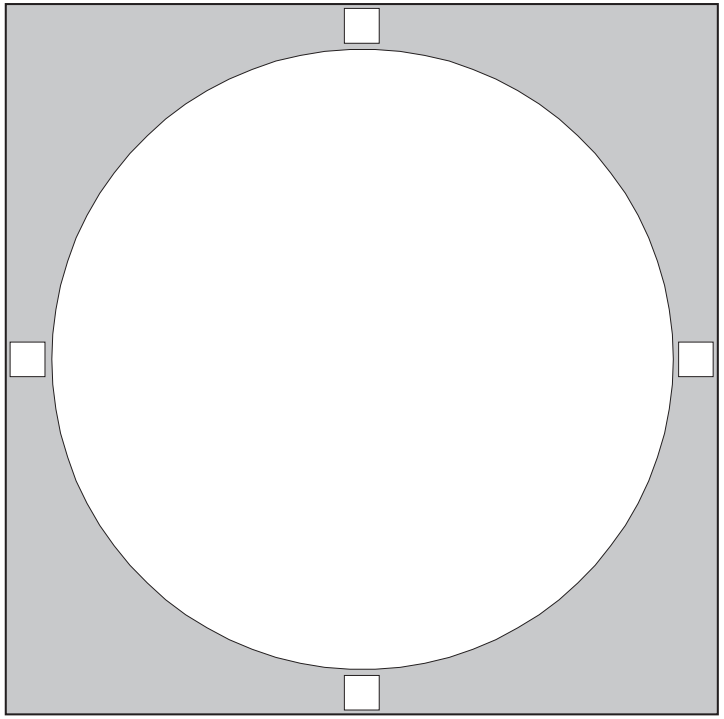
NGC 0253 Closer View –



NGC 0891 & NGC 7662 Closer View –



NGC Number		**253**	
Constellation		**Sculptor**	
Type		**G-SABc**	
Visual Magnitude**		**7.6**	
Size	Distance	**30.0' x 7.0'**	**11 million ly**
RA (Epoch 2000.0)		**00:47.6**	
Dec (Epoch 2000.0)		**-25:17**	
UM I	UM II	**306, 307**	**158**
Sky Atlas 2000		**18**	
Season		**Autumn**	
Remarks***		**!! very large and bright but at low altitude**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



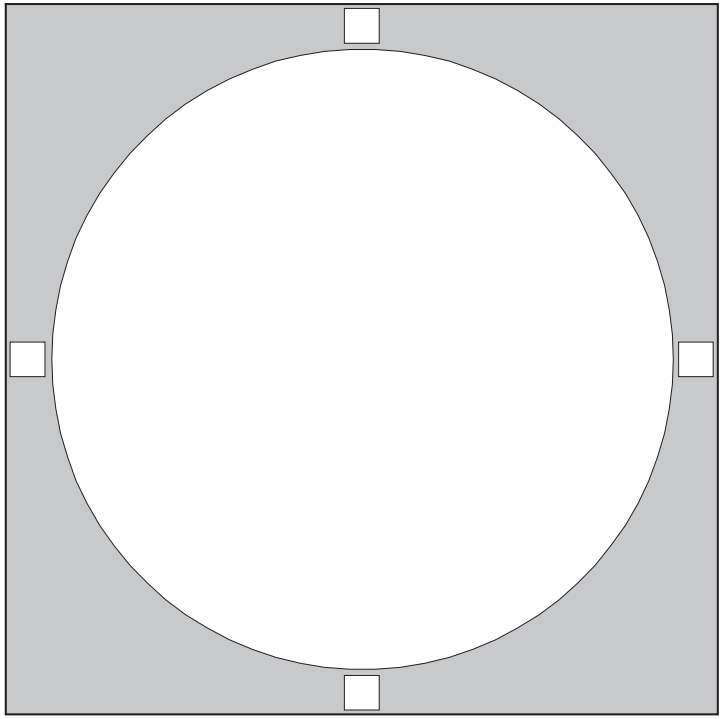
Notes

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 - 11

Blue Snowball

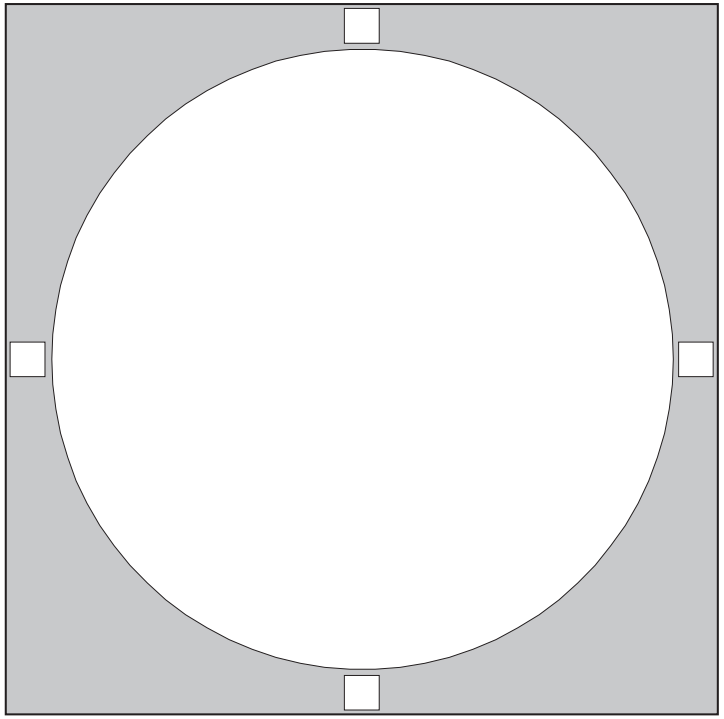
NGC Number		**7662**	
Constellation		**Andromeda**	
Type		**PN**	
Visual Magnitude**		**8.3**	
Size	Distance	**>12"**	**3,900 ly**
RA (Epoch 2000.0)		**23:25.9**	
Dec (Epoch 2000.0)		**+42:33**	
UM I	UM II	**88**	**30**
Sky Atlas 2000		**4, 9**	
Season		**Autumn**	
Remarks***		**!! Blue Snowball; annular at high power**	
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

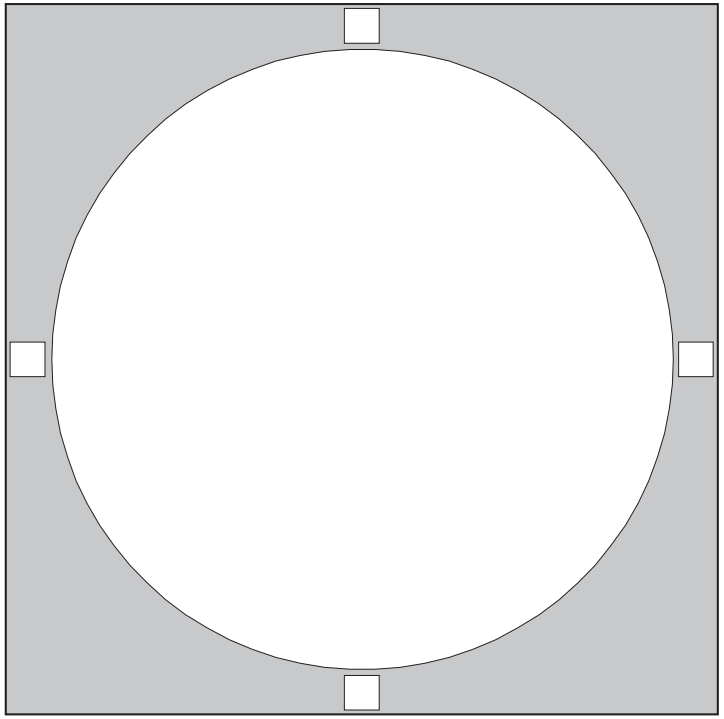
NGC Number		**457**	
Constellation		**Cassiopeia**	
Type		**OC**	
Visual Magnitude**		**6.4**	
Size	Distance	**13.0'**	**9,000 ly**
RA (Epoch 2000.0)		**01:19.1**	
Dec (Epoch 2000.0)		**+58:20**	
UM I	UM II	**36**	**29**
Sky Atlas 2000		**1**	
Season		**Autumn**	
Remarks***		**80*; rich; one of the best Cas clusters**	
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

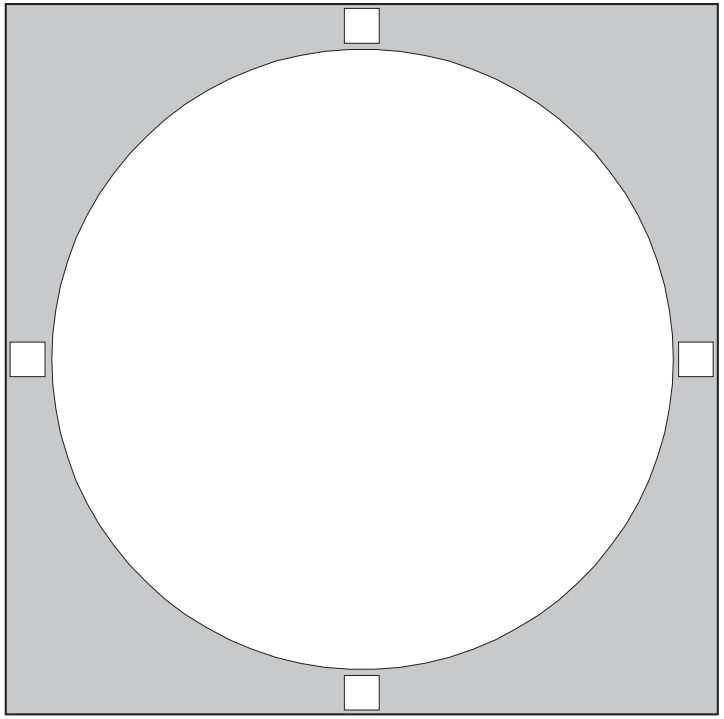
NGC Number		**663**	
Constellation		**Cassiopeia**	
Type		**OC**	
Visual Magnitude**		**7.1**	
Size	Distance	**16.0'**	**7,200 ly**
RA (Epoch 2000.0)		**01:46.0**	
Dec (Epoch 2000.0)		**+61:15**	
UM I	UM II	**16, 17, 37**	**29**
Sky Atlas 2000		**1**	
Season		**Autumn**	
Remarks***		**80*; look for NGC's 654 and 659 nearby**	
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

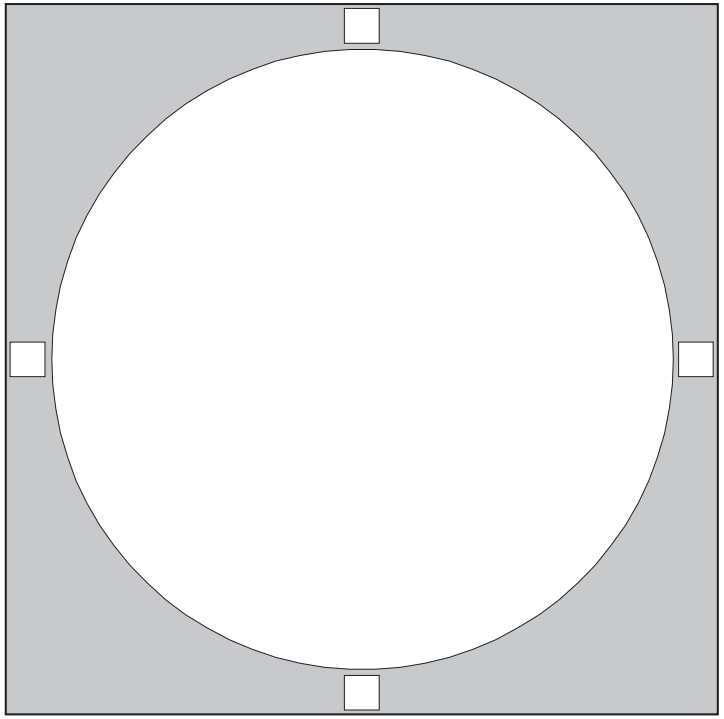
NGC Number		**772**	
Constellation		**Aries**	
Type		**G-SAb**	
Visual Magnitude**		**10.3**	
Size	Distance	**7.3' x 4.6'**	**111 million ly**
RA (Epoch 2000.0)		**01:59.3**	
Dec (Epoch 2000.0)		**+19:01**	
UM I	UM II	**129**	**79, 80**
Sky Atlas 2000		**4, 10**	
Season		**Autumn**	
Remarks***		**diffuse spiral galaxy**	
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

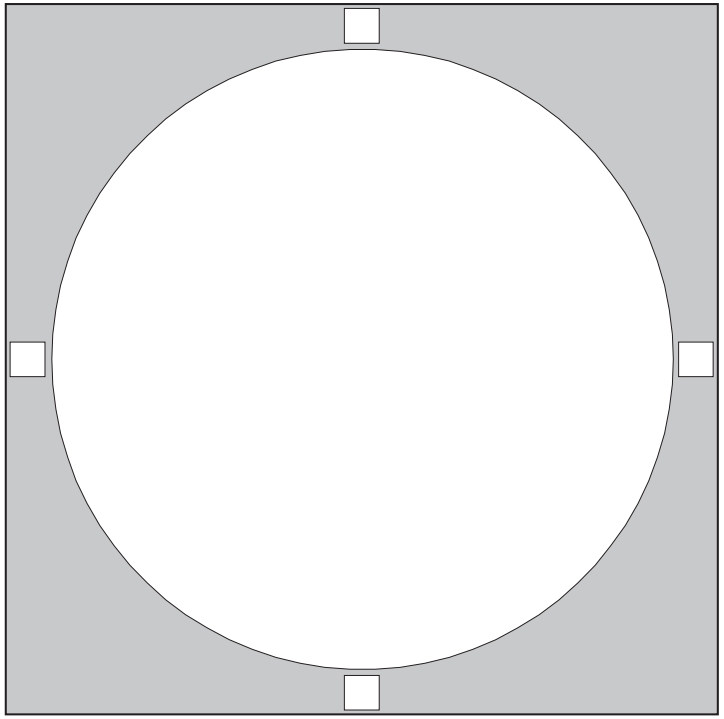
NGC Number		**IC 289**	
Constellation		**Cassiopeia**	
Type		**PN**	
Visual Magnitude**		**13.3**	
Size	Distance	**>34"**	**3,900 ly**
RA (Epoch 2000.0)		**03:10.3**	
Dec (Epoch 2000.0)		**+61:19**	
UM I	UM II	**18, 38**	**28**
Sky Atlas 2000		**1**	
Season		**Autumn**	
Remarks***		**dim oval smudge; use nebula filter!**	
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

NGC Number		**891**	
Constellation		**Andromeda**	
Type		**G-SAb**	
Visual Magnitude**		**9.9**	
Size	Distance	**13.0' x 3.0'**	**30 million ly**
RA (Epoch 2000.0)		**02:22.6**	
Dec (Epoch 2000.0)		**+42:21**	
UM I	UM II	**62**	**43, 44**
Sky Atlas 2000		**1, 4**	
Season		**Autumn**	
Remarks***		**!! faint, classic edge-on with dust lane**	
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