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

Messier Minutes

a guide to completing RASC's Messier Observing Certificate

Part 15 -

September 27th – October 10th, 2022

The following pages include a list of objects discussed in the September 27th, 2022, episode of Messier Minutes. Including finder charts and log pages.

List of Targets Discussed:

Messier #	Constellation	Magnitude	Type	NGC	Name
15	Peg	6.3	GC	7078	Pegasus Cluster/Melotte 234
2	Aqr	6.3	GC	7089	Melotte 235
73	Aqr	8.9	OC	6994	Collinder 426
72	Aqr	9.2	GC	6981	Melotte 233
30	Cap	7.7	GC	7099	Jellyfish Cluster/Melotte 237

Notes:

M15:

(18 arc-minutes)

Autumn showpiece! A nice, large, and bright GC that is visible in binoculars and in any size of telescope. It's easy to find by following Pegasus' neck and head to reddish Enif (Eps Peg) and continuing upwards to the right (northwest) by 4 degrees (towards Albireo at the centre of the summer triangle). It is binoculars-close to Enif. Look for the surrounding triangle of stars, the cluster's overall shape, and its dense, collapsed core. Crank up the power to peer more deeply inside. Can you see star colours? Possible black hole! 32,600 l-y away.

M2:

(16 arc-minutes)

Autumn showpiece! A nice, large, and bright GC that is visible in binoculars and in any size of telescope. It is located in empty sky, about 2/3 of the way from Enif to Sadalsuud (Beta Aqr), or midway between Biham (Theta Peg) and Albali (Eps Aqr). It is binoculars-close to Sadalsuud. Look for the non-round shape and surrounding streams of stars, star colours. Note the compact density profile. Crank up the power to peer more deeply inside. 39,140 l-y away. It is known to host 21 Cepheid, RR Lyrae, and RV Tauri variable stars.

M73:

(2.8 arc-minutes)

Actually, an asterism of four stars in a Y-shape – Messier thought he detected nebulosity. It might be seen as a bright point in binoculars but use any telescope at higher power (>100x) to resolve its form. Located only a thumb's width east of M72. It is located almost halfway from Theta Cap to Albulan I (Mu Aqr, the western hand of Aquarius). Note the star magnitudes and colours and count the field stars.

M72:

(6.5 arc-minutes)

A faint, small cluster about 54,600 l-y away. Use any size of telescope to see it, but a medium aperture to reveal some structure, and 10” or more to resolve the core stars. It is located above the right-hand bikini bottom of Capricornus, a thumb’s width west of M73, or about 2/3 of the way from Theta Cap to Albali (Eps Aqr), or form a long, skinny triangle to the left of Dabih (Beta Cap) and Algedi (Alpha2 Cap). Look for a lack of a dense centre (Class IX), shape, and field stars.

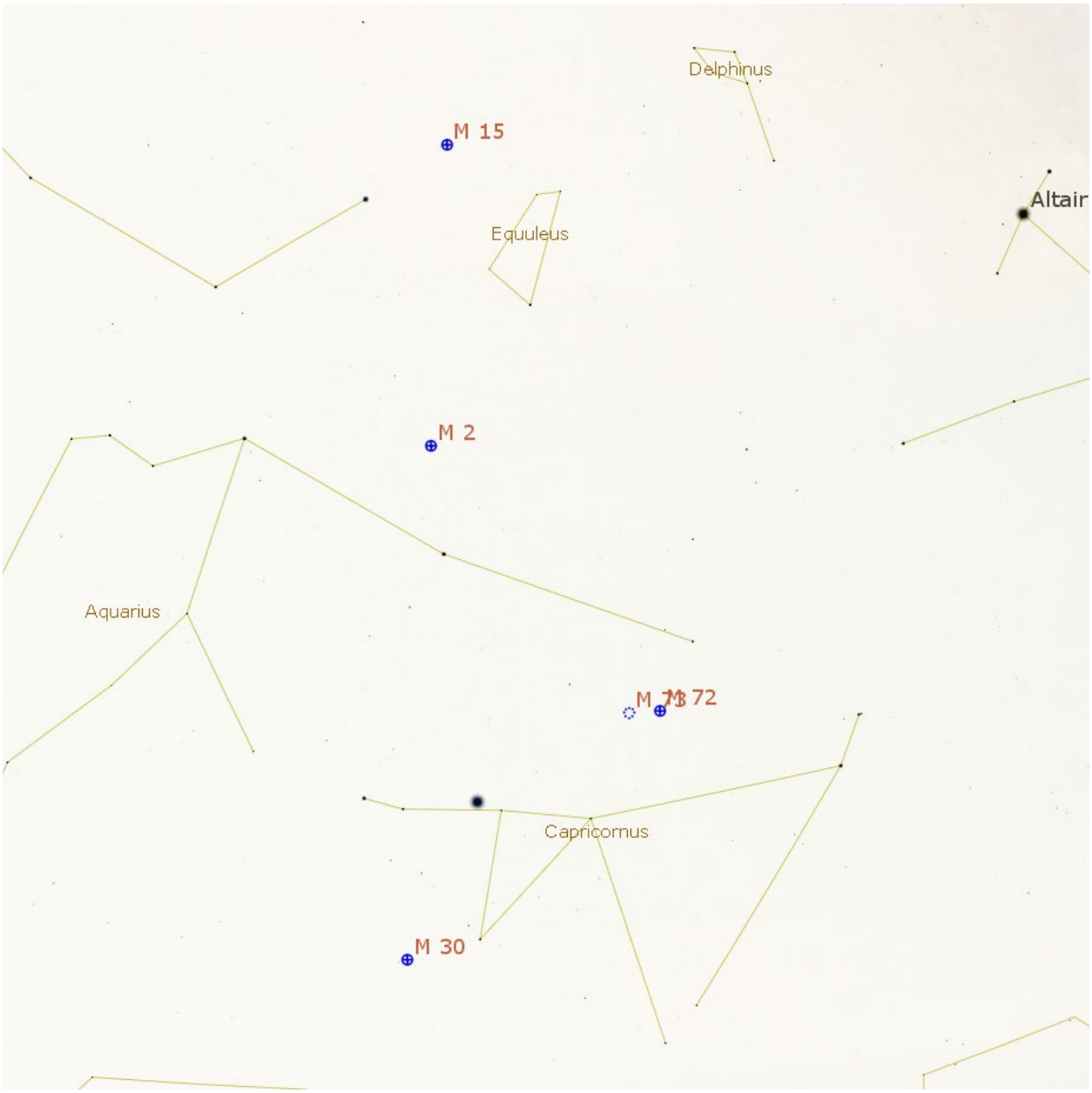
M30:

(12 arc-minutes)

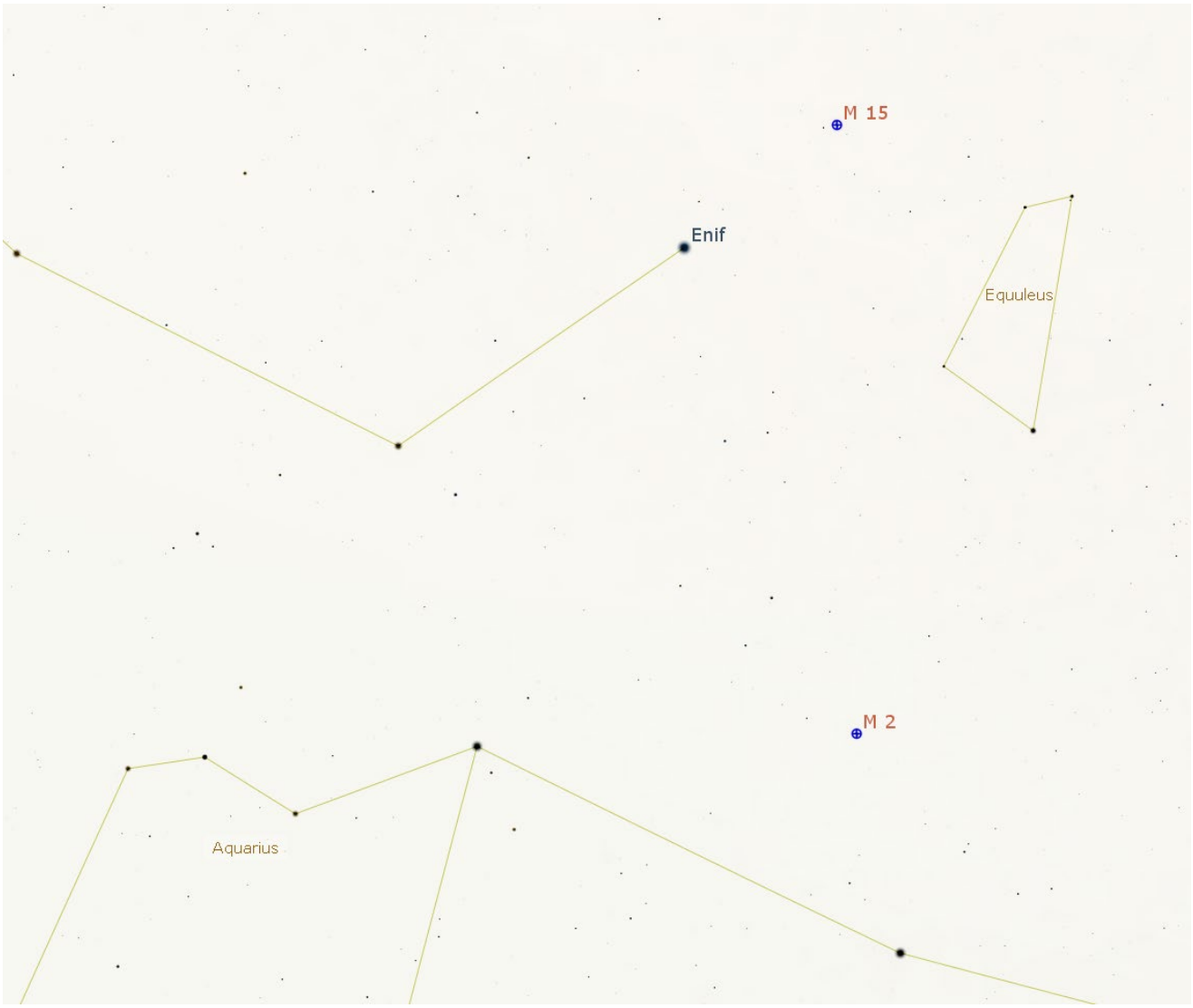
A medium-sized, medium-bright globular that sits rather low in the sky for clear views by Canadians. In late September, it culminates around 10 pm local time – so look then. It is visible in good binoculars when higher, and in any size of telescope. Field stars make it seem elongated E-W. This year, Saturn is shining about 7 degrees above M30. It is binoculars-close to Zeta Cap, towards the southeast. Extend the line from Dabih (Beta Cap) through Zeta Cap by 3 degrees, or extend the line from Sadalmelik (Alpha Aqr) through Deneb Algedi (Delta Cap) by 1/3 of their separation. It also shares the eyepiece with mag 5.2 star 41 Cap. Use higher power to resolve the structure, note the shape, and distribution of surrounding stars. 27,100 l-y away.

Target Finder Charts:

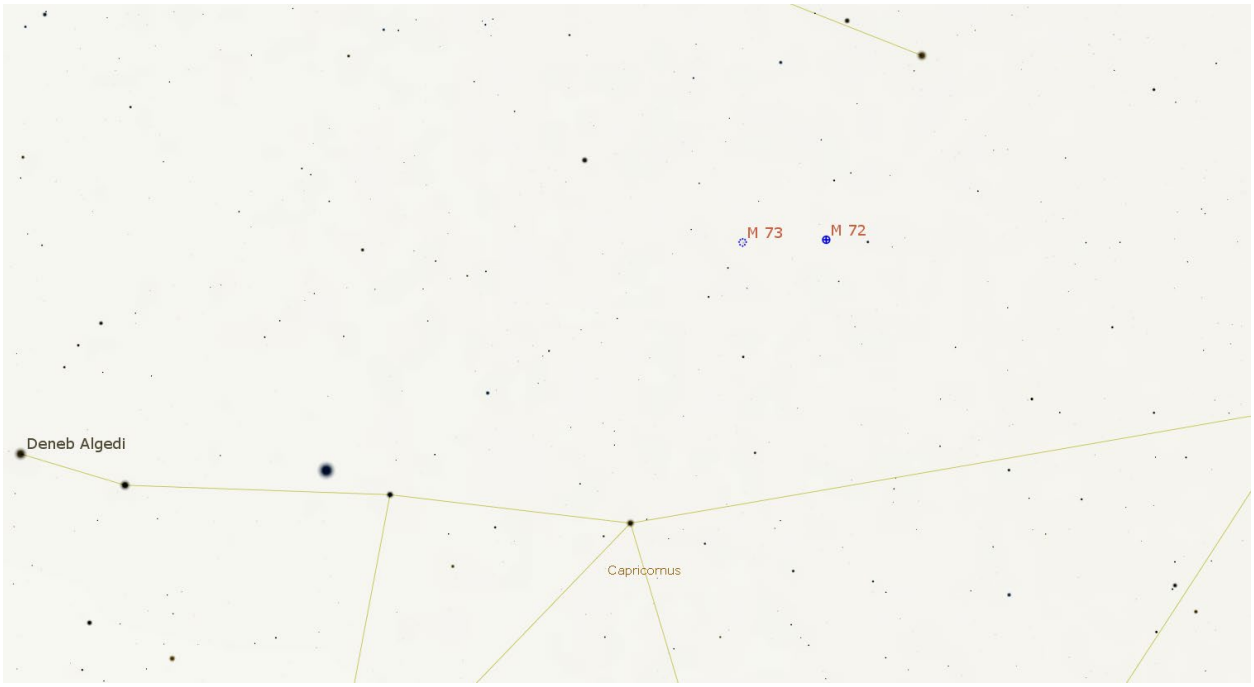
Overview of Targets -



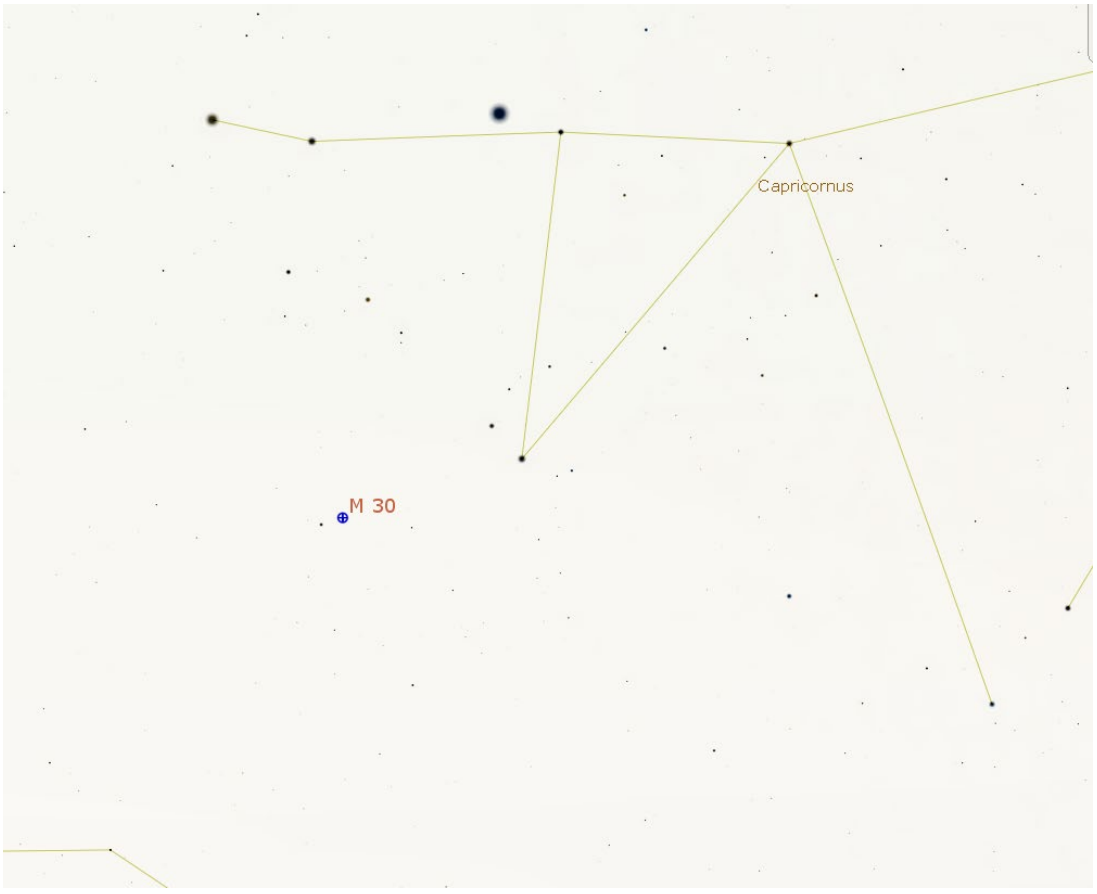
M15 & M2 Closer View –



M72 & M73 Closer View –

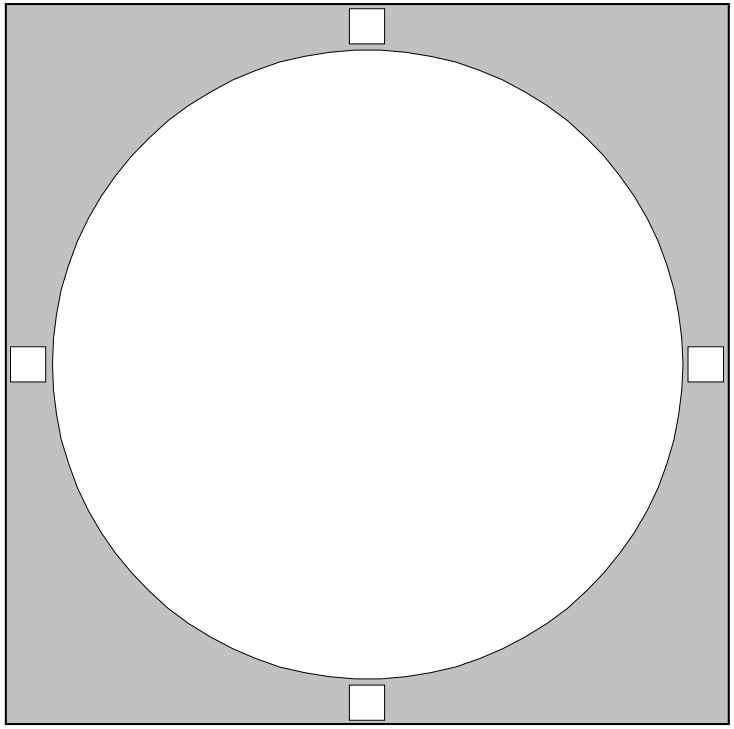


M30 Closer View –



RASC Messier Objects - M15

Messier Object	**M15**		
NGC	**7078**		
Constellation	**Pegasus**		
Type	**Globular Cluster**		
Magnitude	**6.0**		
Distance (Kilo light-years)	**33.6**		
RA	**21 30.0**		
Dec	**+12:10**		
Size	**12.3'**		
UM I	UM II	**210**	**83**
SA	**16, 17**		
Remarks	**rich, compact globular**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			

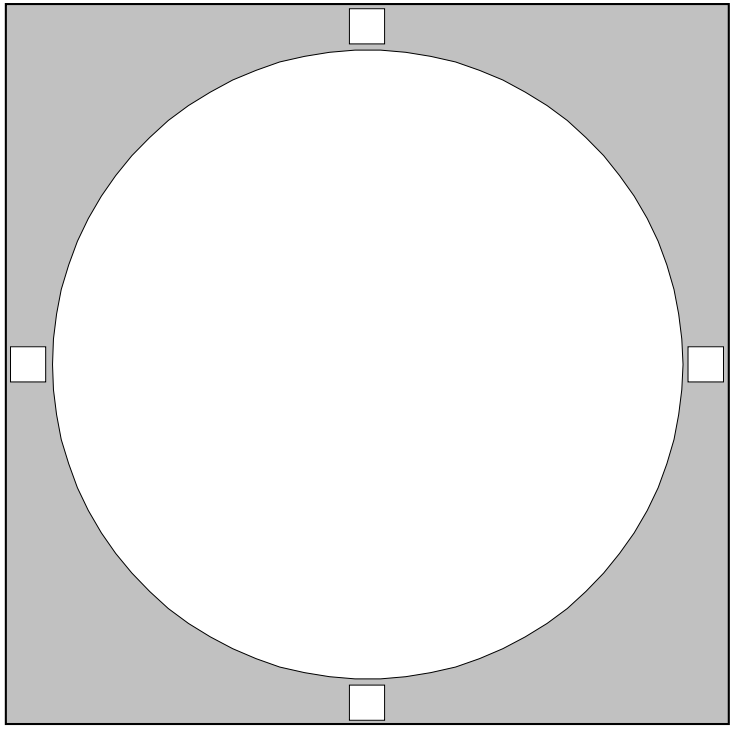


Notes

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 Messier Objects - M2

Messier Object	**M2**		
NGC	**7089**		
Constellation	**Aquarius**		
Type	**Globular Cluster**		
Magnitude	**6.4**		
Distance (Kilo light-years)	**37.9**		
RA	**21 33.5**		
Dec	**-00:49**		
Size	**12.9**		
UM I	UM II	**255,256**	**103**
SA	**7**		
Remarks	**200-mm telescope needed to resolve**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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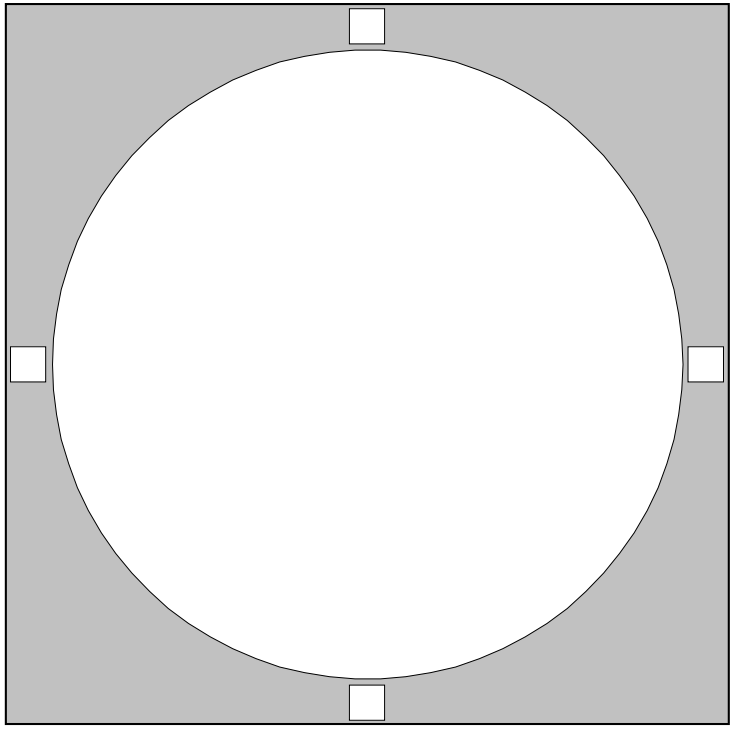
RASC Messier Objects - M73

Messier Object	**M73**		
NGC	**6994**		
Constellation	**Aquarius**		
Type	**Open Cluster**		
Magnitude	**8.9p**		
Distance (Kilo light-years)	**2.0**		
RA	**20 59.0**		
Dec	**-12:38**		
Size	**2.8'**		
UM I	UM II	**299**	**123,124**
SA	**16**		
Remarks	**group of 4 stars only; an "Asterism"**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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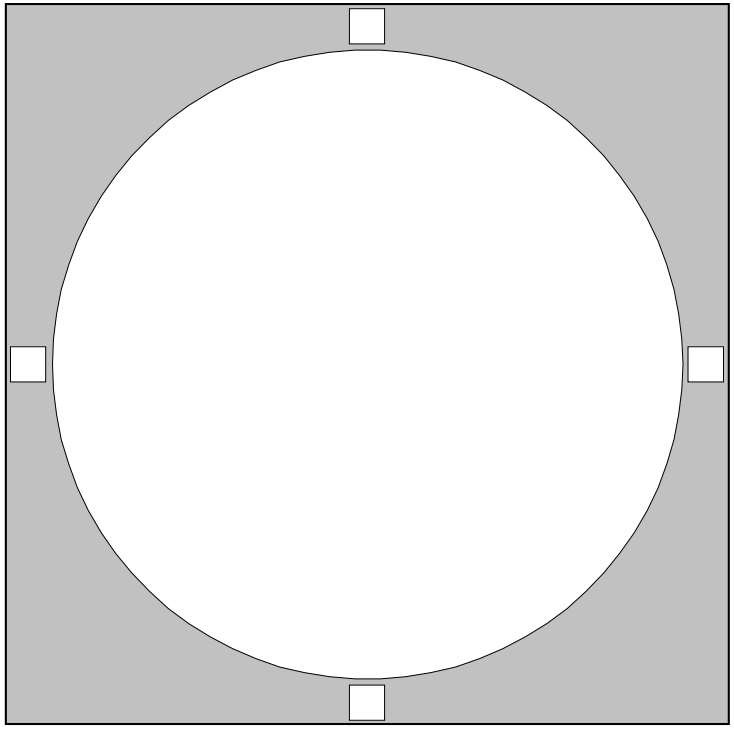
RASC Messier Objects - M72

Messier Object	**M72**		
NGC	**6981**		
Constellation	**Aquarius**		
Type	**Globular Cluster**		
Magnitude	**9.3**		
Distance (Kilo light-years)	**55.4**		
RA	**20 53.5**		
Dec	**-12:32**		
Size	**5.9'**		
UM I	UM II	**299**	**124**
SA	**16**		
Remarks	**near the Saturn Nebula, NGC 7009**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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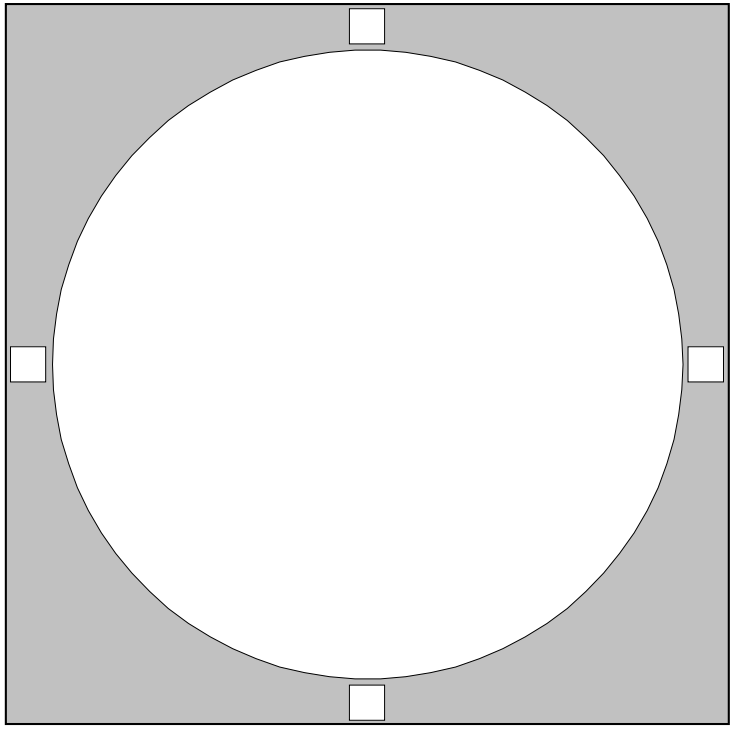
RASC Messier Objects - M30

Messier Object	**M30**		
NGC	**7099**		
Constellation	**Capricornus**		
Type	**Globular Cluster**		
Magnitude	**7.3**		
Distance (Kilo light-years)	**26.1**		
RA	**21 40.4**		
Dec	**-23:11**		
Size	**11.0'**		
UM I	UM II	**345,346**	**143**
SA	**23**		
Remarks	**toughest in 1-night Messier marathon**		
Time (hh:mm)			
Seeing	1 2 3 4 5		
Transparency	1 2 3 4 5		
Observing Location			
Telescope			
Date (dd:mm:yyyy)			



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