

## Challenge Objects Observing List, Valid Dates: July 22 – 30, 2017

Observer:

Suggested Optical aid: **Telescopes with aperture at least 250 mm (10")**

Pin requirements: **Find any 15 of the following. No 'goto' or setting circles allowed**

Object	Type	Constellation	Mag	Date	Notes, more space on back
NGC 6364	Galaxy	Hercules	14.1		
IC 4617 *	Galaxy	Hercules	16.0		
NGC 6207	Galaxy	Hercules	12.1		
PGC 60967	Galaxy Sb	Hercules	15.0		
Arp 103	Galaxy x 3	Hercules			
UGC 9241	Galaxy Sc	Bootes	14.2		
UGC 9240	Galaxy Irregular	Bootes	13.3		
MRK 841	Active Galactic Nuclei	Bootes			
NGC 6791	Open Cluster	Lyra	9.5		
Pluto	Minor planet	Sagittarius	14.2		
NGC 6822	Galaxy	Sagittarius	9.3		
Palomar 11	Globular Cluster	Aquarius	9.8		
IC 5146	Emission Nebula/ Reflection Nebula	Cygnus			
NGC 7317-20	Galaxy	Pegasus	14.6		
Jones 1	Planetary Nebula	Pegasus	12.1		
NGC 7822 *	Emission Nebula/ Reflection Nebula	Cepheus			
IC 59	Emission Nebula/ Reflection Nebula	Cassiopeia			
NGC 609	Open Cluster	Cassiopeia	11.0		
IC 1795	Emission Nebula	Cassiopeia			
Maffei 1 *	Galaxy E3	Cassiopeia			
Abel 426	Galaxy Cluster	Perseus			
NGC 1432/35	Reflection Nebula	Taurus			
IC 342	Galaxy SBc	Camelopardalis	9.1		

\* suggested aperture at least 300 mm

<b>Object</b>	<b>Notes</b>
<b>NGC 6364</b>	
<b>IC 4617 *</b>	
<b>NGC 6207</b>	
<b>PGC 60967</b>	
<b>Arp 103</b>	
<b>UGC 9241</b>	
<b>UGC 9240</b>	
<b>MRK 841</b>	
<b>NGC 6791</b>	
<b>Pluto</b>	
<b>NGC 6822</b>	
<b>Palomar 11</b>	
<b>IC 5146</b>	
<b>NGC 7317-20</b>	
<b>Jones 1</b>	
<b>NGC 7822 *</b>	
<b>IC 59</b>	
<b>NGC 609</b>	
<b>IC 1795</b>	
<b>Maffei 1 *</b>	
<b>Abel 426</b>	
<b>NGC 1432/35</b>	
<b>IC 342</b>	