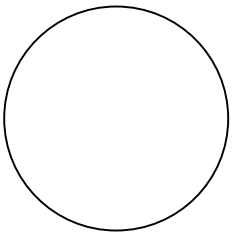
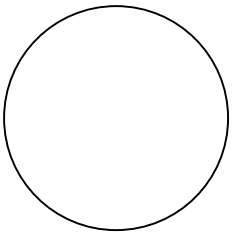
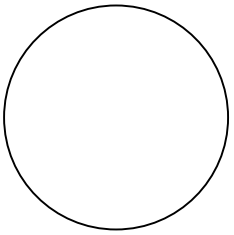
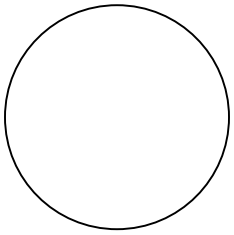
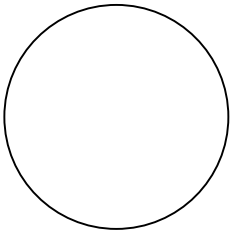
05 - Telescope Optics Project

Part B – Resolution

Below is a list of double stars (stars that orbit around each other) that progressively have less and less separation (smaller " of arc distance from each other). Observer each one and sketch it in the space provided. Judge whether it was resolved per Figure 3-1 on page 1.

SAO Number	Bayer-Flamsteed Name	RA h	RA m	Dec °	Dec '	Visual Magnitudes A	Visual Magnitudes B	Separations " AB	
Fall 092680	γ Ari	1	53	19	17	4.8	4.8	7.8	
Spr 081583	54 Leo	10	56	24	46	4.5	6.5	6.6	
							Resolved? _____		
Fall 074295	65 Psc	0	50	27	43	6.3	6.3	4.5	
Spr 081298	γ Leo	10	20	19	52	2.2	3.5	4.3	
							Resolved? _____		
Fall 055347	ι Tri	2	12	30	18	5.2	6.6	3.8	
Spr 081740		11	15	27	34	7.0	7.5	3.7	
							Resolved? _____		
Fall 146107	ζ Aqr	22	29	-0	1	4.4	4.6	2.1	
Spr 060198	α Gem	7	35	31	54	2.0	2.9	2.2	
							Resolved? _____		
Fall 110291	α Psc	2	2	2	46	4.3	5.2	1.8	
Spr 063648		13	37	36	17	5.5	7.5	1.8	
							Resolved? _____		

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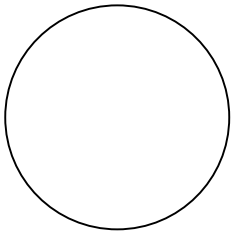
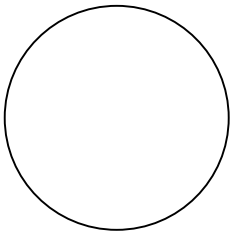
SAO Number	Bayer-Flamsteed Name	RA h	m	Dec °	'	Visual Magnitudes A	B	Separations " AB
Fall 075673	ε Ari	2	59	21	20	5.2	5.5	1.5
Spr 061125	57 Cnc	8	54	30	35	6.1	6.6	1.5
								Resolved? _____



Fall 074359	36 And	0	55	23	38	6.1	6.7	0.8
Spr 099032		10	16	17	44	7.0	7.0	1.1
								Resolved? _____



Questions

6) Indicate in the table below which of the double stars you judged as resolved.

Star Name	Separation "	Resolved? (yes or no)	Star Name	Separation "	Resolved? (yes or no)
γ Ari	7.8		54 Leo	6.6	
65 Psc	4.5		γ Leo	4.3	
ι Tri	3.8		081740	3.7	
ζ Aqr	2.1		α Gem	2.2	
α Psc	1.8		63648	1.8	
ε Ari	1.5		57 Cnc	1.5	
36 And	0.8		99032	1.1	

7) The best smallest resolution you observed, according to the table above, is _____ " of arc.

8) The theoretical resolution for for your telescope's objective from Table 1 on page 1 is _____ " of arc.

9) If you didn't do as good as theory, why not? Give at least 3 reasons.

Answer
1)
2)
3)