

Sample Magnification and Resolution Problems

Magnification: Compute the total magnification for each pair of lenses

	Eyepiece	Objective
1.	10x	4x
2.	5x	10x
3.	10x	63x
4.	10x	45x

5. What is the lowest magnification from 1-4? The highest?

Resolution: Compute the resolution for the following data

$$\text{Resolution} = R = 0.61/\text{N.A.} \times \lambda \quad (\text{units for this problem} = \text{nm})$$

	N.A.	λ
6.	0.10	400 nm
7.	0.25	450 nm
8.	0.25	500 nm
9.	0.40	400 nm

10. What is the best resolution (smallest number) from questions 6-10? Which is the worst?