Answer id	student	1 st answer choice	Explanation	2nd answer choice	Shown Explanations	Chosen Explanation
a ₂₉	S ₂₉	• • •	•••	•••	•••	
a ₃₀	S ₃₀	D (righ t)	e "I think the intensity of the light is proportional to the diameter of the lens."	D (right)	Subset of other explanations for $B = [e_4, e_7, e_{25}]$ Subset of explanations for $A = [e_1, e_3, e_{11}, e_{29}]$	e ₂₅ = "The image will still form as usual, because all it takes is any two rays to be focused at the screen. But since half are blocked, it will be dimmer."
a ₃₁	s ₃₁	•••	•••		•••	•••

	Pair id	e _{win}	e _{lose}	
,	p _{29,7}			
	*p _{30,1}	e ₂₅	e ₃₀	
	p _{30,2}	e ₂₅	e ₄	
	p _{30,3}	e ₂₅	e ₇	
	p _{30,4}	e ₂₅	e ₁	
	p _{30,5}	e ₂₅	e_3	
	p _{30,6}	e ₂₅	e ₁₁	
	p _{30,7}	e ₂₅	e ₂₉	
	p _{31,1}			

(b)

e _{id}	Rank Score		
e ₄	2.17		
e ₂₅	0.25		
e ₇	-0.3		
e_3	-1		
e ₁₁	-1.8		

(c)