

Answer id	student	1 <sup>st</sup> answer choice	Explanation	2nd answer choice	Shown Explanations	Chosen Explanation
a <sub>29</sub>	s <sub>29</sub>	...	...	...	...	...
a <sub>30</sub>	s <sub>30</sub>	D (right)	e <sub>30</sub> = " <i>I think the intensity of the light is proportional to the diameter of the lens.</i> "	D (right)	Subset of other explanations for D = [e <sub>4</sub> , e <sub>7</sub> , e <sub>12</sub> , e <sub>25</sub> ]  Subset of explanations for A = [e <sub>1</sub> , e <sub>3</sub> , e <sub>11</sub> , e <sub>29</sub> ]	e <sub>25</sub> = "Clearly not all rays will hit the screen, but enough rays emerging from all of the object WILL hit the screen. The final real image will be complete, but will be less bright (hence dimmer)..."
a <sub>31</sub>	s <sub>31</sub>	...	...	...	...	...

(a)



Pair id	e <sub>win</sub>	e <sub>lose</sub>
...	...	...
p <sub>29,7</sub>	...	...
*p <sub>30,1</sub>	e <sub>25</sub>	e <sub>30</sub>
p <sub>30,2</sub>	e <sub>25</sub>	e <sub>4</sub>
p <sub>30,3</sub>	e <sub>25</sub>	e <sub>7</sub>
p <sub>30,4</sub>	e <sub>25</sub>	e <sub>12</sub>
p <sub>30,5</sub>	e <sub>25</sub>	e <sub>1</sub>
p <sub>30,6</sub>	e <sub>25</sub>	e <sub>3</sub>
p <sub>30,7</sub>	e <sub>25</sub>	e <sub>11</sub>
p <sub>30,8</sub>	e <sub>25</sub>	e <sub>29</sub>
p <sub>31,1</sub>	...	...
...	...	...

(b)



e <sub>id</sub>	<b>Rank Score</b>
...	...
e <sub>4</sub>	<b>2.17</b>
e <sub>25</sub>	<b>0.25</b>
e <sub>7</sub>	<b>-0.3</b>
e <sub>3</sub>	<b>-1</b>
e <sub>11</sub>	<b>-1.8</b>
...	...

(c)