Physics
Inclined Planes, Form: A

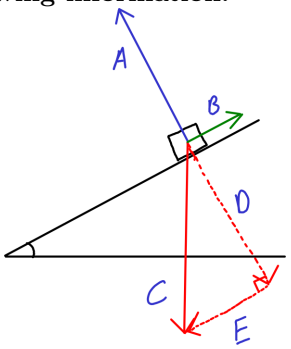
Name: _____
Date: _____
Period: _____
Primary Peer Reviewer: _____

+1	0	-1	Σ

Section 1. Multiple Choice

1. In general, which coordinate system would be best for working with an inclined plane?
   (a) +x: To the Right; +y: Down
   (b) +x: To the Left; +y: Up
   (c) +x: Up the ramp +y: Perpendicular to the ramp, in the direction of the normal force.
   (d) +x: Up the ramp +y: to the right
   (e) +x: Down the Ramp +y: To the Left

Questions 2-4 refer to the following information:



2. On the diagram above, which arrow best represents the component of gravity that is parallel to the plane?
   (a) A
   (b) B
   (c) C
   (d) D
   (e) E
3. On the diagram above, The arrow labeled *A* represents -
   (a) the natural force.
   (b) The weight of the object.
   (c) The normal force.
   (d) Friction
   (e) The component of gravity that is perpendicular to the plane.
4. On the diagram above, The arrow labeled *B* represents -
   (a) the natural force.
   (b) The weight of the object.
   (c) The normal force.
   (d) Friction
   (e) The component of gravity that is parallel to the plane.

Section 2. Multiple Correct Multiple Choice

For each question, please choose TWO correct answers. No credit will be given for incorrect or partially correct answers.

5. Which of the following statements are true concerning the normal force? (Choose TWO)
   (a) The normal force is always directed upward.
   (b) The normal force always cancels friction.
   (c) The normal force and gravity always completely cancel.
   (d) The normal force is always directed perpendicular to a surface.
   (e) The normal force and the component of gravity that is perpendicular to the surface are in exactly opposte directions.

Section 3. Free Response

6. A child is riding down a dune at White Sands National Monument on a sand sled, as shown in the picture above. The mass of the child is 20 kg, and the angle of the hill is 33°. If the child accelerates at a rate of 2.843 m/s^2, what is the force of friction that acts on the child?

Answer Key for Exam A

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1. In general, which coordinate system would be best for working with an inclined plane?
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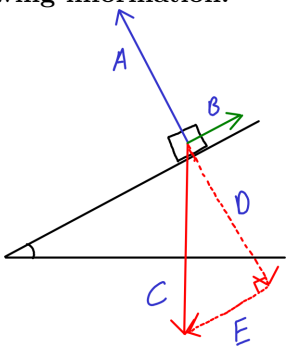

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   (c) The normal force.
   (d) Friction
   (e) The component of gravity that is perpendicular to the plane.
4. On the diagram above, The arrow labeled B represents -
   (a) the natural force.
   (b) The weight of the object.
   (c) The normal force.
   (d) Friction
   (e) The component of gravity that is parallel to the plane.

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