

Physics 112

Tuesday, October 24/17

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1. Return -> Formative Assessment - Weight Problem
 2. Force of Friction - Continue
 3. Free Body Diagrams (FBDs) - To Be Continued
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4. Worksheet - FBDs
 5. Concept Sheet -> U2 - S2: Newton's Laws
 6. Inertia
 7. Newton's 1st Law: Law of Inertia
 8. First Law Problems
 9. Worksheet - C4 - First Law Problems - Page 144: PP #5-7
 10. Worksheet - C4 - Weight and First Law Problems - Page 151:
PFU #26-28, 30-32, 34

Formative Assessment - Weight Problem (O23/17)

A space ship has a weight of magnitude $8.82 \times 10^4 \text{ N}$ on the surface of the Earth. The space ship is launched from Earth and lands on a distant planet where it has a weight of magnitude $3.90 \times 10^5 \text{ N}$. What is the acceleration due to gravity on this planet?

Earth	Planet
$\vec{W}_E = 8.82 \times 10^4 \text{ N}$	$\vec{W}_P = -3.90 \times 10^5 \text{ N}$
$\vec{g}_E = -9.80 \text{ m/s}^2$	$\vec{g}_P = ?$
$m = ?$	$m = ?$

$$\vec{W}_E = m \vec{g}_E$$

$$\vec{W}_P = m \vec{g}_P$$

$$m = \frac{\vec{W}_E}{\vec{g}_E}$$

$$\vec{g}_P = \frac{\vec{W}_P}{m}$$

$$m = \frac{-}{-}$$

$$\vec{g}_P = \ominus 43.3 \text{ m/s}^2$$

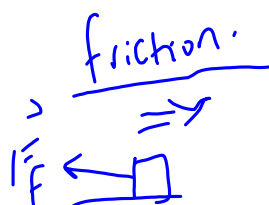
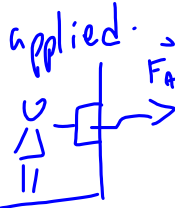
$$m = 9000 \text{ kg}$$

4SD.

$W_P \dots 43.3 \text{ m/s}^2$, down.

Types: Contact and non-contact

Specific: normal.



force of gravity (weight)



Physics 122

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1. SA - U1: S3&4 -> Tuesday, October 24/17
-> Format: MC (max 10) and 4 Problems
 2. Return -> FA - 1D Collision
FA - 2D Explosion
 3. Results?
Experiment 9.1 - Conservation of Momentum (Page 55)
 4. Unit 2 - Projectiles, Circular Motion and Universal Gravitation
 5. U2-S1 - Uniform Circular Motion
 6. Uniform Circular Motion
 7. Horizontal Circular Motion
 8. Centripetal Acceleration
 9. Centripetal Force
-
10. Formulas
 11. Worksheet - Problems: Circular Motion

FA - 1D Collision

A 92.0 kg football player running at 6.50 m/s south collides with an 85.0 kg football player running at 6.00 m/s north. The 92.0 kg football player continues moving at a velocity of 2.00 m/s south after the collision.

- a) What is the velocity of the 85.0 kg football player after the collision?
- b) What type of collision occurred? Justify your answer mathematically.

Formative Assessment: 2D Explosion

A 5.0 kg bomb at rest explodes into three pieces, each of which travels parallel to the ground. The first piece, with a mass of 1.2 kg, travels at 5.5 m/s at an angle of 20° south of east. The second piece has a mass of 2.5 kg and travels 4.1 m/s at an angle of 25° north of east. Determine the velocity of the third piece.

Science 10

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1. Return More Results: SA - Chem #2
2. Check -> Worksheet: Translating Word Equations
3. Predicting Products - To Be Continued
4. Tomorrow - Roller Coasters -TAPE!!

5. Worksheet: Predicting Products
6. Acids and Bases
7. Neutralization Reactions