

HOMEWORK : Chapter

Name	School Student #	Date	Professor Assessment

Total: 10 points

Instructions

Student

- 1) Fill in the chapter number, name, school student number, and date at the top of this page.
- 2) Follow the rubric below and complete the assigned homework starting with the problem number.
- 3) Have the homework checked by a classmate; else you will receive a deduction up to 2 points.

Classmate

- 1) Follow the rubric below to assess the homework.
- 2) Write your name and your assessment at the bottom right of this page.
- 3) If the rubric is not followed, you will also receive a deduction up to 2 points.

Rubric

Category	Description	Points
BIIG Checkpoints	1. Assigning of known information to the corresponding variables, and performing unit conversions (B I I)	1
	2. Assigning of the unknown information to the variable(s) (I I)	1
	3. Providing the description of the formula and writing of the formula(e), and including diagram(s) if needed (G)	1
	4. Showing the math clearly with consistent use of variables and units (B I I G)	1
	5. Reporting the final answer with correct significant figures for the solved (unknown) variable(s) (B I I)	1
	6. Specifying the correct units, and performing the proper analysis of the solution if needed (B G)	1
Completeness	First 25%	1
	Second 25%	1
	Third 25%	1
	Fourth 25%	1

Deduction to both

Classmate Name	Classmate Assessment

Total: 10 points

Example:

A kangaroo can jump over an object 275 cm high. Calculate its vertical speed when it leaves the ground.

Solution: P2.50

$$y_0 = 0 \text{ m} \quad y = 2.75 \text{ m} \quad v = 0 \text{ m/s} \quad a = -g = -9.80 \text{ m/s}^2 \quad v_0 = ?$$

Using **kinematic equation** for the **final velocity squared**

$$v^2 = v_0^2 + 2a(y - y_0)$$

Solving for the **initial velocity**

$$\begin{aligned} v_0 &= \sqrt{[v^2 - 2a(y - y_0)]} \\ &= \sqrt{[(0 \text{ m/s})^2 - 2(-9.80 \text{ m/s}^2)(2.75 \text{ m} - 0 \text{ m})]} \\ &= 7.341662 \text{ m/s} \end{aligned}$$

The kangaroo's vertical speed when it leaves the ground is,

$$v_0 = 7.34 \text{ m/s}$$

Problems (3 points each)*Clearly show all work.***1. Solution: #**

	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

2. Solution: #

	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

3. Solution: #

	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

4. Solution: #

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	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

5. Solution: #

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	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

6. Solution: #

	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

7. Solution: #

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	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

8. Solution: #

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	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

9. Solution: #

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	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	

10. Solution: #

	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	
	$\frac{1}{2}$	$\frac{1}{2}$	