Motion Equations 1

Objectives

Be able to use these formulas:

$$a = \frac{v_f - v_i}{\Delta t}$$

$$v_f = v_i + a \cdot \Delta t$$

Note that both of these formulas are the *definition of acceleration*, and it is simply put into two different forms

- Know that when an object is falling down, it accelerates at a rate of 9.8 m/s^2 . Use this information the two formulas above.

Use the following formula only to solve for

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$$v_f = v_i + a \cdot \Delta t$$

I have an initial velocity of 4 m/s.

I have an acceleration of 5 m/s^2 .

I have a time of 4 seconds.

What is my final velocity?

Looking For	Formula	
Already Know		•
Answer in a complete sentence	with unit:	

I have an initial velocity of 18 m/s.

I have an acceleration of 2 m/s².

I have a time of 20 seconds.

What is my final velocity

Looking For	Formula	
Already Know		l .
Answer in a complete sentence	with unit:	

?

I have an acceleration of 3 m/s^2 .

I have a time of 4 seconds.

I have a **final** velocity of 20 m/s.

What is my **initial** velocity?

Looking For	Formula	

Alroady Vnovy		
Already Know		
Answer in a complete sentence	with unit:	
I have an acceleration of 3 m	$^{\prime}$ S ² .	
I have a time of 4 seconds.		
I have a final velocity of 20 m	ı/s.	
What is my initial velocity?	Formula	<u> </u>
Looking For	Formula	
Already Know		.i
Answer in a complete sentence	with unit	
I have a final valagity of 20 m	la.	
I have a final velocity of 30 m I have an initial velocity of 20		
I have at time of 5 seconds.	111/3.	
What is my acceleration?		
Looking For	Formula	
A1 1 17		
Already Know		
Answer in a complete sentence	with unit:	

I have a final velocity of 23 m/s.
I have an initial velocity of 5 m/s.
I have a time of 6 seconds.
What is my acceleration?
Looking For Formula

Already Know

Answer in a complete sentence with unit:

Formula 2:

$$\Delta x = v_i \cdot \Delta t + \frac{1}{2} a(\Delta t)^2$$

I have an initial velocity of 4m/s.

I have a time of 3 s.

I have an acceleration of 6 s.

What is my displacement?

what is my displacement:		
Looking For	Formula	
Already Know		
Answer in a complete sentence	with unit:	

I have an initial velocity of 5 m/s.

I have a time of 10 s.

I have an acceleration of 4 m/s².

What is my displacement?

Looking For	Formula	

Already Know		
Ameday Know		
Answer in a complete sentence	with unit:	
Formula 3		
$\Delta x = \left(\frac{v_i + v_j}{2}\right)$	$f \setminus A$	
$\Delta x = (\frac{1}{2})^{3}$	$-\Delta t$	
\	/	
_		
I have an initial velocity of 15	m/s	
I have a final velocity of 5 m/s		
I have a time of 3 seconds.	J.	
What is my displacement?		
Looking For	Formula	
Looking I of	Tormula	
Already Know		
Answer in a complete sentence	with unit:	
I have an initial valority of 2	n /s	
I have an initial velocity of 3 r		
I have a final velocity of 13 m. I have a time of 4 s.	/ 3.	
What is my displacement?		
Looking For	Formula	
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Already Know		
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Answer in a complete s			
Answer in a complete s	sentence with unit.		
have an initial veloci	tv of 2 m/s.		
have a final velocity			
have a displacement			
What was my time?			
Looking For	Formula		
-			
Already Know			
Answer in a complete s	sentence with unit:		
have an initial veloci	ty of 12 m /s		
have a final velocity			
have a displacement			
What was my time?	01 7 0 III		
Looking For	Formula		
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Already Know		··	
Already Know			
Already Know			
Already Know			
Already Know Answer in a complete s			