

# Download File PDF Speed And Experiments Stephen Murray Answer Key

#Jenny



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#Markus Jensen



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so many fake sites. this is the first one which worked! Many thanks

**Linear Motion In Class Test Review** This is NOT the homework!!!

1) Circle the bigger one: A. Centimeters or $\frac{1}{100}$ meters? B. Micrometers or $\frac{1}{1000000}$ meters? C. Kilometers or $\frac{1}{1000}$ meters? D. Millimeters or $\frac{1}{1000}$ meters? E. Meters or $\frac{1}{1000}$ meters?	2) Three people record the mass of an object. They record 123.5 g, 123.6 g and 123.4 g. The actual mass of the object is 126.2 g. As to the measuring device accuracy: A. Is the device precise? $\checkmark$ (yes) B. Is the device precise? $\times$ (no) C. What would you do to the device? <i>recalibrate</i>
3) Convert 4300 micrometers to centimeters. (Other convert to meters, then to cm.) $\frac{4300 \mu\text{m}}{1000000} = \frac{4300 \times 10^{-6} \text{ m}}{10^{-2} \text{ m}} = 43 \times 10^{-4} \text{ m} = 4.3 \times 10^{-3} \text{ m}$	4) Convert 18 km to $\frac{\text{miles}}{\text{hour}}$ per min. $\frac{18 \text{ km}}{1 \text{ hour}} \times \frac{3.3 \times 10^3 \text{ ft}}{1 \text{ mile}} \times \frac{60 \text{ min}}{1 \text{ hour}} = 3.564 \times 10^6 \text{ ft/min}$
5) An object moves 120 m in 15 seconds. Calculate the object's speed. $S = \frac{D}{T} = \frac{120}{15} = 8 \text{ m/s}$	6) An object moves 18 km. How long does it take the object to move 14 km? $S = \frac{D}{T} \Rightarrow T = \frac{D}{S} = \frac{14 \text{ km}}{18 \text{ km}} \times 18 \text{ h} = 14 \text{ h}$
7) A car begins at a stop sign. It picks up going 100 m in 6.5 seconds. Find the car's acceleration. Variables: Equation and solve: $v_i = 0 \text{ m/s}$ $v_f = 100 \text{ m}$ $t = 6.5 \text{ sec}$ $100 = 0 + \frac{1}{2} a (6.5)^2$ $200 = a (42.25)$ $a = \frac{200}{42.25} = 4.73 \text{ m/s}^2$	8) Speed or velocity: A person walks 5 m to the west. Call (West direction) scalar or vector. A car is moving 30 m/s. <i>scalar (no dir)</i>
9) When an object is in freefall, what is its acceleration? $-9.8 \text{ m/s}^2$	10) What is the acceleration of a full bottle of water dropped from a desk? $-9.8 \text{ m/s}^2$
11) What is the acceleration of an empty bottle of water dropped from a desk? $-9.8 \text{ m/s}^2$	12) An object dropped from a 10 m tall tree. $a_y = -9.8 \text{ m/s}^2$
13) A person throws a ball into the air at 6 m/s from the ground. When it comes back, $v_y = -6 \text{ m/s}$ and $t = 0 \text{ m}$ .	14) "Sliding on the deck of the ship, wearing shoes" with my sister. I get bored and push her off the 2-m dock. How fast is the moving when she falls into the water? (I had more importantly how badly is she going to hurt me when she catches me?) Variables: Equation: $v_i = 0 \text{ m/s}$ $v_f = ?$ $d = 2 \text{ m}$ $v_f^2 = v_i^2 + 2ad$ $v_f^2 = 0 + 2(-9.8)(2)$ $v_f = \sqrt{-39.2} = 6.26 \text{ m/s}$
15) In the graphs below, the car is at constant speed between the first two positions and between the last two positions. Between the middle two positions it is accelerating. Calculate its acceleration. $a = \frac{v_f - v_i}{t} = \frac{12 - 3}{3} = 3 \text{ m/s}^2$	

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