

Physics 1A-c
Quiz # 1 Oct. 12, 2007
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MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) A rock is thrown straight up with an initial velocity of 19.6 m/s. What time interval elapses between the rock's being thrown and its return to the original launch point? (Acceleration due to gravity is 9.80 m/s^2 .)
A) 4 s B) 5 s C) 8 s D) 10 s E) 12 s
- 2) A bird, accelerating from rest at a constant rate, experiences a displacement of 28 m in 11 s. What is the average velocity?
A) 1.7 m/s B) 2.5 m/s C) 3.4 m/s D) 5.0 m/s E) zero
- 3) In the case of constant acceleration, the average velocity equals the instantaneous velocity
A) at the beginning of the time interval
B) at the end of the time interval
C) half-way through the time interval
D) three-fourths of the way through the time interval
- 4) Maria throws two stones from the top edge of a building with a speed of 20 m/s. She throws one straight down and the other straight up. The first one hits the street in a time t_1 . How much later is it before the second stone hits?
A) 6 s
B) 5 s
C) 4 s
D) 3 s
E) Not enough information is given to work this problem
- 5) John throws a rock down with speed 14 m/s from the top of a 30-m tower. If $g = 9.8 \text{ m/s}^2$ and air resistance is negligible, what is the rock's speed just as it hits the ground?
A) 12 m/s B) 28 m/s C) 36 m/s D) 350 m/s E) 784 m/s
- 6) Norma releases a bowling ball from rest; it rolls down a ramp with constant acceleration. After half a second it has traveled 0.75 m. How far has it traveled after two seconds?
A) 1.2 m B) 4.7 m C) 6.4 m D) 9.0 m E) 12.0 m
- 7) Two automobiles are 150 kilometers apart and traveling toward each other. One automobile is moving 60.0 km/hr and the other is moving at 40.0 km/hr. In how many hours will they meet?
A) 2.50 hours B) 2.00 hours C) 1.75 hours D) 1.5 hours E) 1.25 hours
- 8) A train slowly climbs a 500-m mountain track which is at an angle of 10.0° with respect to the horizontal. How much altitude does it gain?
A) 86.8 m B) 88.2 m C) 95.4 m D) 341 m E) 492 m

Answer Key

Testname: QUIZ1AC.TST

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) A
- 2) B
- 3) C
- 4) C
- 5) B
- 6) E
- 7) D
- 8) A