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Physics 231 Test #1

1. A(six), there are 6 sigs-fig in 120.070

2. $12.56 \times 2.12 = 26.672$
   Answer: B(26.6)

3. Answer: B.(downward) because the accerlation is only due to the gravity as the $v = 0$.

4. the first few seconds the speed increases and then from 4 to 9 it increases agian because the slope acceralition is the inital particle. Therefore the answer is (A. Only increase)

5. Given 15.0m north & 11.0m south
   a.) Distance traveled: $15.0m + 11.0m = 26m$
   b.) Displacement is
   $$d = (15j - 11j) = 4j$$
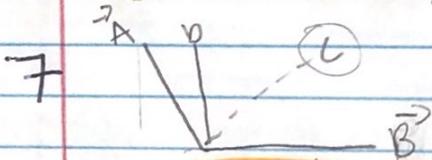 $$d = \sqrt{(4)^2} = 4m$$
   Answer: (B. 26.0m, 4.0m)

6. $vf = vo + a \cdot t$
   $$t = \frac{(160 - 100) \, m/s}{15 \, m/s^2} = 4s$$
   Answer (C. 4.0s)

7.

   Answer is (C. Choice (c))

8. $V_x = V\cos 30° = 940 \text{ m/s}$; $V_y = V\sin 30° = 96 \text{ m/s}$

a.) $V_y = 0$ $(U_y^2 = Uy^2 + 20yn)$

$h = -96^2 + 2(-9.8)(h)$

$h = \dfrac{96^2}{2 \times 9.8} = 470.2 \text{ m}$

Answer is (A)(470 m)

9. Area1 + Area2

$\dfrac{1}{2} \times 20 \times 4 = 40 + 80 = 120 \text{ m}$

Answer is (B)(120)

10. $V = ft = (2^{m/s} \times 3 \text{ m/s}) = 6 \text{ m/s}$

V at the end = 5s

$V_1 = V + f_1 t =$

$= 6 + (1 \times 5) = 11 \text{ m/s}$

Answer (D)(11 m/s)