

Quiz 4 physics

Name: Key

Class: \_\_\_\_\_

Date: \_\_\_\_\_

1.  $16 \frac{m}{s^2} = \frac{ft}{s^2}$

$\frac{16 m}{s^2} \left| \frac{3.28 ft}{1 m} \right| = \boxed{52.78 \frac{ft}{s^2}}$

2.  $16 \frac{mi}{hr^2} = \frac{m}{s^2}$   
 hr? →

$\frac{16 mi}{hr^2} \left| \frac{1 hr}{3600} \right| \left| \frac{1 hr}{3600} \right| \left| \frac{1609 m}{1 mi} \right| = \boxed{0.001986 \frac{m}{s^2}}$

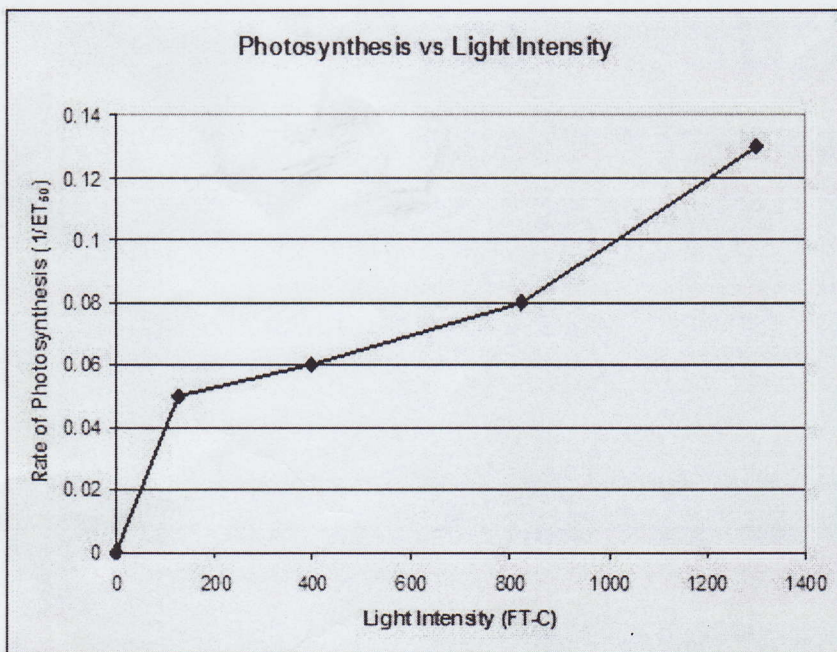
3. Perform the conversion  
 $50 \frac{mi}{hr} = \frac{ft}{s}$

$\frac{50 mi}{hr} \left| \frac{5280 ft}{1 mi} \right| \left| \frac{1 hr}{3600 sec} \right| = \boxed{73.3 \frac{ft}{sec}}$

4. Perform the conversion  
 $50 \frac{mi}{hr} = \frac{m}{s}$

$\frac{73.3 ft}{s} \left| \frac{1 m}{3.28 ft} \right| = \boxed{22,358 \frac{m}{s}}$

D

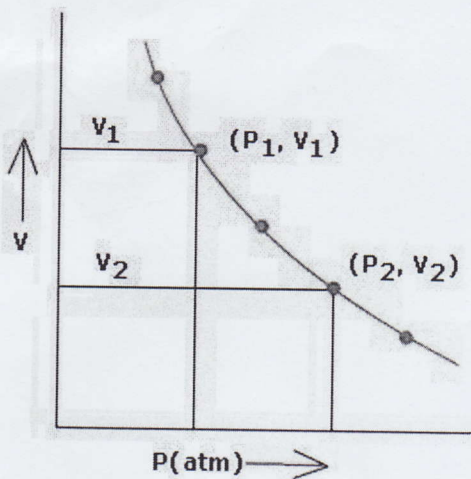


5. D

Choose the most appropriate statement regarding the graph above.

- A. The relationship is inverse and the best fit line is drawn correctly
- B. The relationship is direct and the best fit line is drawn correctly
- C. The relationship is inverse and the best fit line is not drawn correctly
- D. The relationship is direct and the best fit line is not drawn correctly
- E. The relationship is neither direct or inverse

B



6. The relationship between P and V in the situation above appears to be:
- A. Direct
  - B. Inverse
  - C. Neither

Perform the following metric conversion

0.0192

7.  $19.2 \text{ mm}^3 = \underline{\hspace{2cm}} \text{ cm}^3$

$$\frac{19.2 \text{ mm}^3}{1000} = \frac{1 \text{ cm}}{10 \text{ mm}}$$

D

8. Convert 17 million meters into kilometers

- A. 17 km
- B. .017 km
- C. 17,000,000 km
- D. 17,000 km
- E. This problem is impossible

$$\frac{17,000,000 \text{ m}}{1000} = 17,000 \text{ km}$$

B

9. Solve  $a_c = \frac{v^2}{r}$  for r

A.  $r = a_c v^2$

B.  $r = \frac{v^2}{a_c}$

C.  $r = \frac{a_c}{v^2}$

D.  $r = \sqrt{\frac{a_c}{v}}$

3

How many significant digits are in the following measurements?

10. 404000 kg