

S10 Unit Review Physics Answers

Pg 376-377

1. a) $10.2 \text{ km} = 3 \text{ SD}$

b) $0.02 \text{ m} = 1 \text{ SD}$

c) $5.0 \text{ cm} = 2 \text{ SD}$

7. a) $d = 100$
 $t = 10.8$
 $v = ?$

$$v = \frac{d}{t} = \frac{100 \text{ m}}{10.8 \text{ s}} = 9.26 = 9 \text{ m/s}$$

b) $d = 200$
 $v = 9.17$
 $t = ?$

$$t = \frac{d}{v} = \frac{200 \text{ m}}{9.17 \text{ m/s}} = 21.8 \text{ s} = 20 \text{ s}$$

8. $2998.7 \text{ km} = d$
 $41.58 \text{ h} = t$

$$v = \frac{d}{t} = \frac{2998.7 \text{ km}}{41.58 \text{ h}} = 72.12 \text{ km/h}$$

9. a) $88 \text{ km/h} \rightarrow \text{m/s} \div 3.6 = 24.4 \text{ m/s}$

b) $t = 0.2 \text{ s}$
 $v = 24.4 \text{ m/s}$
 $d = ?$

$$d = vt$$
$$d = (24.4 \text{ m/s})(0.2 \text{ s})$$
$$d = 4.88 \text{ m}$$

10. a) $d = 35 \text{ km}$
 $t = 169 \text{ min}$
 $v = ?$

$$v = \frac{d}{t} = \frac{35 \text{ km}}{169 \text{ min}} = 0.207 \text{ km/min}$$

b) $v = 19 \text{ km/h}$
 $t = ?$
 $d = 35 \text{ km}$

$$t = \frac{d}{v} = \frac{35 \text{ km}}{19 \text{ km/h}} = 1.8 \text{ h}$$

11. a) Bill $v = \frac{y_2 - y_1}{x_2 - x_1}$
 $v = \frac{60 - 0 \text{ m}}{30 - 0 \text{ s}}$
 $v = 2 \text{ m/s}$

b) Mark $v = \frac{y_2 - y_1}{x_2 - x_1}$ or $\frac{d_2 - d_1}{t_2 - t_1}$
 $= \frac{80 - 0}{30 - 10}$
 $= \frac{80}{20}$
 $v = 4 \text{ m/s}$

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WS

1. a) $4.60 + 3 = 7.6 = 8$
b) $0.008 + 0.05 = 0.058 = 0.06$
c) $22.4420 + 56.981 = 79.423$
d) $200 - 87.3 = 113$
e) $67.5 - 0.009 = 67.5$
f) $71.86 - 13.1 = 58.76 = 58.8$
g) $357.89 + 0.002 = 357.89$
h) $17.95 + 32.42 + 50 = 100$
i) $5.5 + 3.7 + 2.97 = 12.2$
j) $84.675 - 3 = 80$
k) $75 - 2.55 = 72$
l) $10 - 9.9 = 0.1$

2. a) $13.7 \times 2.5 = 34.25 = 34$
b) $200 \times 3.58 = 716 = 700$
c) $0.00003 \times 727 = 0.02181 = 0.02$
d) $\frac{5003}{3.781} = 1323$
e) $\frac{89}{9.0} = 9.9$
f) $\frac{5000}{55} = 90$
g) $7.6 \times 21.9 = 170$
h) $2.15 \times 31 \times 100 = 700$
i) $5.00009 \times 0.06 = 0.3$
j) $\frac{38}{7} = 5.4$
k) $\frac{500009}{17.000} = 29412$
l) $\frac{500000}{5.002} = 99960$

3. The speedometer of a car reads instant speed. Because it is the speed at that instant you are driving not an average of your overall speed.

4. $d = 139\text{m}$
 $v = 13.0\text{m/s}$
 $t = ?$

$$t = \frac{d}{v} = \frac{139\text{m}}{13.0\text{m/s}} = 10.7\text{s}$$



5. $v = 45\text{miles/h}$
 $d = 1,800\text{miles}$

$$t = \frac{d}{v} = \frac{1,800}{45} = 40\text{hrs}$$

6. $v = 50,000\text{km/h}$
 $t = 4\text{hr}$
 $d = ?$

$$d = vt$$

$$d = (50,000)(4)$$

$$d = 200,000\text{km}$$

7. b) $v = \frac{d_2 - d_1}{t_2 - t_1}$ or $\frac{y_2 - y_1}{x_2 - x_1}$

$$\frac{30 - 0\text{m}}{6 - 0\text{s}} = \frac{30\text{m}}{6\text{s}} = 5\text{m/s}$$