

#1

①a  $d = 5.6 \text{ m}$   $t = 11.6 \text{ s}$

①b  $v$

②  $v = \frac{d}{t}$

③  $v = \frac{5.6 \text{ m}}{11.6 \text{ s}}$

④  $v = \frac{5.6}{11.6} = \boxed{0.48 \text{ m/s up}}$

⑤  $0.48 = \frac{5.6}{t} \cdot x$

$$\frac{0.48 t}{0.48} = \frac{5.6}{0.48}$$

$t = 11.67 \checkmark$

#2

1a)  $d = 182.3 \text{ m}$      $v = 6.2 \text{ m/s}$

1b)  $t$

2)  $v = \frac{d}{t}$

3)  $6.2 \text{ m/s} = \frac{182.3 \text{ m}}{t}$

4)  $t \cdot 6.2 = \frac{182.3}{t} \cdot t$

$$\frac{6.2t}{6.2} = \frac{182.3}{6.2}$$

$t = 29.4 \text{ s}$

5)  $6.2 = \frac{d}{29.4} \cdot 29.4$

$$182.28 = d \cdot v$$

#5

①a  $t = 15 \text{ s}$   $v_f = 57.6 \text{ m/s}$   $a = 1.4 \text{ m/s}^2$

①b  $v_0$

②  $a = \frac{(v_f - v_0)}{t}$

③  $1.4 \text{ m/s}^2 = \frac{(57.6 \text{ m/s} - v_0)}{15 \text{ s}}$

④  $15 \cdot 1.4 = \frac{57.6 - v_0}{15}$

$$v_0 + 21 = 57.6 = v_0 + 21$$

$$v_0 + 21 = 57.6 - 21$$

$$v_0 = 36.6 \text{ m/s away}$$

⑤  $a = \frac{(57.6 - 36.6)}{15} = \frac{21}{15}$

$$= 1.4 \checkmark$$



#71

①a  $v_0 = 12.7 \text{ m/s}$   $t = 482.8 \text{ s}$   $v_f = 1$

①b  $a$

②  $a = \frac{(v_f - v_0)}{t}$

③  $a = \frac{(12.7 \text{ m/s} - 12.7 \text{ m/s})}{482.8 \text{ s}}$

④  $a = \frac{12.7 - 12.7}{482.8} = \frac{0}{482.8}$

$a = 0 \text{ m/s}^2$

⑤  $0 = \frac{12.7 - v_0}{482.8} \cdot 482.8$

$v_0 + 0 = 12.7 = v_0 + v_0$

$v_0 = 12.7 \checkmark$