Acceleration problems 1:

$$a = \frac{(v_f - v_0)}{t}$$

do this first!

$v_f \square v_0 = \div t$

$(v_f \square v_0) \div t$

~~$v_f \square v_0 \div t$~~

(1) (1a) $v_0 = 7.5$ m/s $t = 3$ s

$v_f = 9.1$ m/s

(1b) a

(2) $a = \dfrac{(v_f - v_0)}{t}$

(3) $a = \dfrac{(9.1 - 7.5)}{3}$

(4) $a = \dfrac{1.6}{3}$

$= 0.533 \dfrac{m}{s^2}$ down the street

(5) $\frac{3}{3} \cdot 0.533 = \dfrac{(9.1 - v_0)}{3} \cdot 3$

$v_0 + 1.599 = (9.1 - v_0) + v_0$

$v_0 + 1.599 = 9.1 - 1.599$

-1.599

$v_0 = 7.501$ ✓