

Word Problems

- ① a) A: \$0.33 per km + \$15 initial fee
B: \$0.25 per km + \$21 initial fee

b) $0.33n + 15 = 0.25n + 21$

$$0.08n = 6$$

$$n = 75 \quad \text{After 75 km}$$

c) A: $C = 0.33(90) + 15$ B: $C = 0.25(90) + 21$
 $C = \$44.70$ $C = \$43.50$

choose B.

- ② $x = \text{cost of hot dog}$ $y = \text{cost of drink}$

$$10x + 5y = 12.50$$

$$7x + 4y = 9$$

$$70x + 35y = 87.5$$

$$\underline{-70x - 40y = -90}$$

$$-5y = -2.5$$

$$y = 0.50 \quad x = 1$$

hot dogs \$1, soft drink \$0.50

- ③ $x = 1^{\text{st}} \#$ $y = 2^{\text{nd}}$

$$x + y = 45$$

$$y = 4x$$

$$x + 4x = 45$$

$$5x = 45$$

$$\boxed{x = 9} \quad \boxed{y = 36}$$

- ④ $x = y - 7$ $x + y = 63$

$$y - 7 + y = 63$$

$$2y = 70$$

$$\boxed{y = 35}$$

$$\boxed{x = 28}$$

⑩ $x = \text{cost hamburger}$ $y = \text{cost hotdog}$

$$2x + 5y = 8$$

$$5x + 2y = 9.50$$

$$4x + 10y = 16$$

$$-25x - 10y = -47.5$$

$$\hline -21x = -31.5$$

$$x = 1.5 \quad y = 1$$

hamburger cost \$1.50

⑪ $x = \# \text{ 30 kg}$ $y = \# \text{ 50 kg}$

$$30x + 50y = 880$$

$$x + y = 20$$

$$x = 20 - y$$

$$30(20 - y) + 50y = 880$$

$$600 - 30y + 50y = 880$$

$$20y = 280$$

$$y = 14$$

14 are

50 kg

⑫ $x = \text{cost orange}$ $y = \text{cost banana}$

$$5x + 14y = 1.36$$

$$8x + 9y = 1.41$$

$$40x + 112y = 10.4$$

$$-40x - 45y = -7.05$$

$$\hline 67y = 3.35$$

$$y = 0.05$$

$$x = 0.12$$

Oranges cost \$0.12

bananas cost \$0.05

⑬ $x = \text{cost pencil}$ $y = \text{cost crayon}$

$$5x + 3y = 8.52$$

$$2x + 4y = 5.76$$

$$20x + 12y = 34.08$$

$$-6x - 12y = -17.28$$

$$\hline 14x = 16.8$$

$$x = 1.2$$

$$y = 0.84$$

Pencils cost \$1.20 crayons cost \$0.84