

4. John is training for a half marathon. For the problems below, use tape diagrams, numbers, and words to explain each answer.

- A. Each day, John runs on the treadmill for 3 kilometers and runs on the outdoor track for 5,000 meters. In all, how many meters does John run each day?

R

T	3 km
O	5,000 m

OR

3 km	5,000 m
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3 km = 3,000 m

$$\begin{array}{r}
 3,000 \text{ m} \\
 + 5,000 \text{ m} \\
 \hline
 8,000 \text{ m}
 \end{array}$$

John runs 8,000 m each day.

- B. Since John has started training, he has also been drinking more water. On Saturday, he drank 1 liters 575 milliliters of water. On Sunday, he drank some more. If John drank a total of 3 liters 145 milliliters of water on Saturday and Sunday, how many milliliters of water did John drink on Sunday?

3L 145 mL

S	1L 575 mL
Sun.	W

OR

1L 575 mL	W
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1L 575 mL = 1,575 mL

3L 145 mL = 3,145 mL

$$\begin{array}{r}
 3,145 \text{ mL} \\
 - 1,575 \text{ mL} \\
 \hline
 1,570 \text{ mL}
 \end{array}$$

John drank 1,570 mL of water on Sunday.

- C. Since he began exercising so much for his half marathon, John has been losing weight. In his first week of training, he lost 1 kilograms 320 grams. In the following two weeks of training, he lost 1 kilogram 645 grams each week. John now weighs 59 kilograms 470 grams. What was John's weight, in grams, before he started training? Explain your thinking.

A

1 kg 320 g
1 kg 645 g
1 kg 645 g

OR

1 kg 320 g	1 kg 645 g	1 kg 645 g
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$$\begin{array}{r}
 1,320 \text{ g} \\
 1,645 \text{ g} \\
 + 1,645 \text{ g} \\
 \hline
 4,610 \text{ g}
 \end{array}$$

59 kg 470 g = 59,470 g

John weighed 64,080 g before he started training. I know this because I added together the weight he lost and what he weighs now to find his original weight.

$$\begin{array}{r}
 59,470 \text{ g} \\
 + 4,610 \text{ g} \\
 \hline
 64,080 \text{ g}
 \end{array}$$