

Exercise 2015-8EF-00009(4)

NO CALCULATOR MAY BE USED IN THIS EXERCISE

- (1) Determine the area of a rectangle with the following dimensions $1,2 \text{ cm} \times 8,2 \text{ cm}$
- (2) Carlo goes jogging for 5 days of the week to practise for an upcoming marathon. He jogged 26,56 ; 34,65 ; 12,45 ; 23,98 and 44,77 km respectively for the five days. Calculate the total distance that Carlo jogged for the five days.
- (3) Are the following statements true or false?
- (a) All natural numbers are rational numbers.
 - (b) $\sqrt{121}$ is not a rational number.
 - (c) -66 is an integer, but also a real number.
 - (d) The sum of any two natural numbers will always be a natural number.
- (4) A mathematics textbook is 1,34 cm thick. On a table there are 36 textbooks stacked on each other. Determine the total thickness of all 36 textbooks.
- (5) Which of the following solutions are correct? If the statement(s) is incorrect, correct it.

Solution 1:

$$\begin{aligned} & \frac{3}{4} \div 1 \frac{1}{2} \times 5,5 \\ &= \frac{3}{4} \div \frac{3}{2} \times 5 \frac{1}{2} \\ &= \frac{3}{4} \times \frac{2}{3} \times \frac{11}{2} \\ &= \frac{1}{2} \times \frac{11}{2} \\ &= \frac{11}{4} \\ &= 2 \frac{3}{4} \end{aligned}$$

Solution 2:

$$\begin{aligned} & \frac{3}{4} \div 1 \frac{1}{2} \times 5,5 \\ &= \frac{3}{4} \div \frac{3}{2} \times 5 \frac{5}{10} \\ &= \frac{3}{4} \div \left(\frac{3}{2} \times \frac{55}{10} \right) \\ &= \frac{3}{4} \div \left(\frac{165}{20} \right) \\ &= \frac{3}{4} \times \frac{20}{165} \\ &= \frac{5}{55} = \frac{1}{11} \end{aligned}$$