

NO CALCULATOR MAY BE USED IN THIS EXERCISE!

- (1) Determine the area of a rectangle with the following dimensions $1,2 \text{ cm} \times 8,2 \text{ cm}$

$$\text{Area of rectangle} = 1,2 \text{ cm} \times 8,2 \text{ cm}$$

$$= 9,84 \text{ cm}^2$$

$$\begin{array}{r} 12 \\ \times 82 \\ \hline \end{array}$$

$$24$$

$$+ 960$$

$$984$$

$\therefore$ The area of the rectangle is $9,84 \text{ cm}^2$

- (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.

$$26,56 + 34,65 + 12,45 + 23,98 + 44,77$$

$$\begin{array}{r} 26,56 \\ 34,65 \\ 12,45 \\ 23,98 \\ 44,77 \\ \hline \end{array}$$

$$142,41$$

$$23,98$$

$$44,77$$

$$142,41$$

$$\therefore \text{Total distance is } 142,41 \text{ km}$$

(3) Are the following statements true or false?

(a) All natural numbers are rational numbers.

True

(b) $\sqrt{121}$ is not a rational number.

False, because $\sqrt{121} = 11$ and 11 is a rational number.

(c) -66 is an integer, but also a real number.

True

(d) The sum of any two natural numbers will always be a natural number.

True

(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.

$$\begin{array}{rcl} 1,34 \times 360 & & \begin{array}{r} ^2 ^2 \\ 1,34 \\ \times 36 \\ \hline 804 \\ + 4020 \\ \hline 48,24 \end{array} \\ = 1,34 \times 36 \times 10 & & \\ = 48,24 \times 10 & & \\ = 482,4 & & \end{array}$$

$\therefore$ Total thickness of 36 textbooks is
482,4 cm

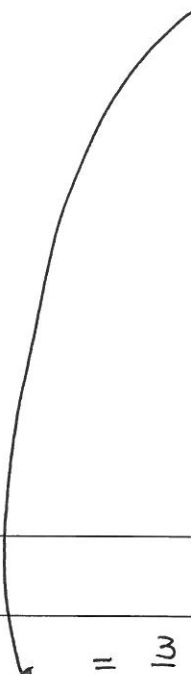
(5) Which of the following solutions are correct? If the statement(s) is incorrect, correct it.

Solution 1:

$$\begin{aligned} & \frac{3}{4} \div 1 \frac{1}{2} \times 5,5 \\ &= \frac{3}{4} \div \frac{3}{2} \times 5 \frac{1}{2} \\ &= \frac{\cancel{3}^1}{\cancel{4}_2} \times \frac{\cancel{2}^1}{\cancel{3}_1} \times \frac{11}{2} \\ &= \frac{1}{2} \times \frac{11}{2} \\ &= \frac{11}{4} \\ &= 2 \frac{3}{4} \quad \text{Correct!} \end{aligned}$$

Solution 2:

$$\begin{aligned} & \frac{3}{4} \div 1 \frac{1}{2} \times 5,5 \\ &= \frac{3}{4} \div \frac{3}{2} \times 5 \frac{5}{10} \quad \checkmark \\ &= \frac{3}{4} \div \left(\frac{3}{2} \times \frac{55}{10} \right) ? \\ &= \frac{3}{4} \div \left(\frac{165}{20} \right) \quad \text{Order of operations!} \\ &= \frac{3}{4} \times \frac{20}{165} \\ &= \frac{5}{55} = \frac{1}{11} \end{aligned}$$


$$= \frac{3}{4} \div \frac{3}{2} \times \frac{55}{10}$$

* Do not add brackets!

* Calculate from left to right

* See solution 1.