

**Exercise 1**

Complete the following expressions :

▶1.  $9\ 305 = 9 \cdot 1\ 000 + 3 \cdot 100 + 5$

▶2.  $2\ 678 = 26 \cdot 100 + 10 \cdot 7 + 8$

▶3.  $34 \cdot 100 + 6 \cdot 10\ 000 + 8 \cdot 10 + 1 = 63\ 481$

▶4.  $754 \cdot 10 + 43 \cdot 1\ 000 + 8754 \cdot 10 + 0.2 = 138\ 080.2$

**Exercise 2**

Simplify :

▶1.  $a + b + a + b + a = 3a + 2b$

▶2.  $(7 \cdot x) \cdot (3 \cdot y) = 21xy$

▶3.  $a \cdot b \cdot ab \cdot a = a^3 \cdot b^2$

▶4.  $7.3 \cdot a - a \cdot 4 + 15.2 \cdot a = 18.5 \cdot a$

▶5.  $15a \cdot 4b \cdot 2a = 120 \cdot a^2 \cdot b$

▶6.  $7a \cdot a \cdot a^2 \cdot a^2 = 7a^6$

**Exercise 3**

Calculate :

▶1.  $3.17 \cdot 2.05 = 6.4985$

▶2.  $17.16 : 0.352 = 48.75$

▶3.  $73.7 : 0.75 = 98.267$

▶4.  $8.13 : 0.3 = 27.1$

▶5.  $0.35 : 0.05 = 7$

▶6.  $1\ 286.345 - 479.688 + 255.12 = 1061.8$

**Exercise 4**

Calculate :

▶1.  $3^5 = 243$

▶2.  $5^3 = 125$

▶3.  $4^0 = 1$

▶4.  $2^3 = 8$

▶5.  $3^2 = 9$

▶6.  $1^{1000} = 1$

▶7.  $1000^1 = 1000$

▶8.  $0.4^2 = 0.16$

▶9.  $0.12^2 = 0.0144$

**Exercise 5**Insert the missing *decimal point* (or *decimal separator*) :

▶1.  $24.5 \cdot 10.2 = \boxed{249.9000}$

▶2.  $20.5 \cdot 0.95 = \boxed{19.475}$

▶3.  $20.5 : 0.1 = \boxed{205.00}$

▶4.  $\boxed{0.2} \cdot 100 = 20$

**Exercise 6**

Complete the following expressions :

▶1.  $345\ 600 : 10\ 000 = 34.56$

▶2.  $2.045 \cdot 100 = 204.5$

▶3.  $34\ 090 \cdot 0.001 = 34.09$

▶4.  $0.003 \cdot 100\ 000 = 300$

▶5.  $247.865 \cdot 0.001 = 0.24787$

▶6.  $154\ 785 : 0.01 = 15\ 478\ 500$

**Exercise 7**

Among the three options that are given, which one is the closest value to the result :

▶1.  $68\ 789 + 20\ 157 + 39\ 901 \approx 130\ 000$

▶2.  $5\ 100 - 1\ 879 - 2\ 205 \approx 1\ 000$

▶3.  $49.8 \cdot 712.08 \approx 35000$

▶4.  $38\ 987 + 50\ 115 + 71\ 037 \approx 160000$

▶5.  $89.3 \cdot 506.01 \approx 45000$

**Exercise 8**

The same rule defines each series. Complete the following table :

<b>1.2</b>	4.7	8.2	11.7	15.2	<b>18.7</b>			<i>incremented by 3.5</i>
<b>8</b>	5	10	7	14	11	<b>22</b>	<b>19</b>	<i>alternate incrementation by (<math>\times 5</math>) and (<math>-3</math>)</i>
<b>13.8</b>	12.5	11.2	9.9	8.6	<b>7.3</b>	<b>6.0</b>		<i>increment by (<math>-1.3</math>)</i>
<b>0.8</b>	2.4	7.2	21.6	64.8	<b>194.4</b>	<b>583.2</b>		<i>multiply by <math>\times 3</math></i>
<b>243</b>	81	27	9	<b>3</b>				<i>divide by 3</i>
<b>72</b>	36	18	9	4.5	<b>2.25</b>			<i>divide by 2</i>

**Exercise 9**

The same rule defines each series. Complete the following table :

<b>2.1</b>	6.3	18.9	56.7	<b>170.1</b>	
<b>34</b>	18	10	6	4	<b>3</b>
<b>3</b>	5.5	8.0	10.5	13.0	<b>15.5</b>
<b>28</b>	16	10	7	5.5	<b>4.75</b>
<b>21.1</b>	18.4	15.7	13	<b>10.3</b>	<b>7.6</b>
7	15	31	<b>63</b>	127	<b>255</b>

**Exercise 10**

Complete the following table :

$a$	$b$	$c$	$(a + b) \cdot c$	$a + b \cdot c$
8	0.4	2.5	<b>21</b>	<b>9</b>
1.04	5	6	<b>36.24</b>	<b>31.04</b>
2.3	1.7	14	<b>56</b>	<b>26.1</b>

**Exercise 11**

Steve filled his tank next to a supermarket where a liter of gasoline costs 1.27 €. If he had visited a gas station closer to his home, he would have paid 1.34 € per liter. Steve calculated that he saved 2.66 €. How much gas did he buy?

**Answer (explicit calculations) :**  $1.27x + 2.66 = 1.34x \Leftrightarrow x = 38$  liter

**Exercise 12**

Mike wants to buy six notebooks that have all the same price. At the till he has to pay 11.40€, but he realizes that he is missing 3€. How many notebooks can he buy with the money that he has?

**Answer (explicit calculations) :**  $6x = 11.40 \Leftrightarrow x = 1.9$  (price of one notebook).  $\frac{11.40-3}{1.9} = 4$  notebooks can be bought by Mike.

**Exercise 13**

In a stationery store, Kate buys 6 notebooks and 8 pens. At the till he gives 20€, and the seller returns him 9.20€. Find the price of a notebook, knowing that a pencil costs 0.80€.

**Answer (explicit calculations) :**  $x$  and  $y$  are the prices of notebooks and pens, respectively.

$$\begin{aligned} 6x + 8y &= 20 - 9.20 \\ y &= 0.80 \end{aligned}$$

Therefore  $x = 0.73$  € (price of a notebook)