

**PART 2**

3. State the **number of significant digits** in each of the following measured values:

- a. 10.05 m
- b.  $5.07 \times 10^3$  g
- c. 0.0060 kg
- d.  $6 \times 10^{-3}$  kg
- e. 2500 s
- f. 90.0 m

4  
3  
2  
1  
2  
3

(3)

4. Write the following numbers in **scientific notation**:

- a. 950.0
- b. 10.67
- c. 0.0085
- d. 85 000

$9.500 \times 10^2$   
 $1.067 \times 10^1$   
 $8.5 \times 10^{-3}$   
 $8.5 \times 10^4$

(2)

5. Write the following numbers in **expanded form**:

- a.  $8.05 \times 10^{-3}$
- b.  $3.6 \times 10^1$
- c.  $10.25 \times 10^0$
- d.  $0.0350 \times 10^3$
- e.  $4.05 \times 10^{-2}$

0.00805  
36  
10.25  
350  
0.0405

(2.5)

**PART 3**

6. Perform the following mathematical operations. State your answer with the correct number of **significant digits**, with correct **units**, and in **scientific notation**.

	Question	Show the answer in expanded (standard) form, with correct significant figures and units	Show the answer in scientific notation, with correct significant figures and units
(a)	$48.900\text{s} - 0.4\text{ s}$	48.5s	$4.85 \times 10^1\text{ s}$
(b)	$8.50 \times 10^3\text{ m} + 9.9 \times 10^{-2}\text{ m}$	8500m	$8.50 \times 10^3\text{ m}$
(c)	$1.895\text{ mL} + 6.24\text{ mL}$	8.14 mL	8.14 mL
(d)	$45.98\text{ cm} \times 2.005\text{ cm} \times 8.73\text{ cm}$	805 cm <sup>3</sup>	$8.05 \times 10^2\text{ cm}^3$
(e)	$(7.8 \times 10^2\text{ kg}) \div (45.60\text{ L})$	17 kg/L	$1.7 \times 10^1\text{ kg/L}$
(f)	$3.78\text{ m/s}^2 \times 8\text{ s}$	30 m/s	$3 \times 10^1\text{ m/s}$
(g)	$\frac{(5.85\text{kg/m}^3) \times (3.1\text{ m}^3)}{56.0\text{m}^2}$	0.32 kg/m <sup>3</sup>	$3.2 \times 10^{-1}\text{ kg/m}^3$

(7)

14.5