9. *(a)* Write **each** of the following numbers in standard form.

(i) 0·0000045

.....

[1]

(ii) 35 700 000 000

.....

[1]

(b) Find, in standard form, the value of

$$(2{\cdot}7 \times 10^{-6}) \times (8{\cdot}3 \times 10^{-5}).$$

.....

.....

[2]

8. *(a)* The average distance of the Earth from the Sun is about 149 million kilometres. Write this number of kilometres in standard form.

.....

[1]

(b) The mass of the Earth is $5{\cdot}98 \times 10^{24}$ kg. The mass of the Earth is 81 times the mass of the Moon. Calculate the mass of the Moon in kilograms, giving your answer in standard form and to an appropriate degree of accuracy.

.....

.....

.....

.....

[3]

8. *(a)* Write **each** of the following numbers in standard form.

(i) 73 400 000

.....

[1]

(ii) 0·00054

.....

[1]

(b) Find, in standard form, the value of

$$(3{\cdot}6 \times 10^{5}) \div (7{\cdot}8 \times 10^{-6}).$$

.....

.....

[2]

7. Find, in standard form, the value of

(a) $(7{\cdot}4 \times 10^{-5}) \times (3{\cdot}9 \times 10^{-4})$,

.....

.....

[1]

(b) $\dfrac{59639}{0{\cdot}087}$.

.....

.....

[2]

6. *(a)* The following numbers have been written in standard form. Write **each** in decimal form.

(i) $(3{\cdot}7 \times 10^{6})$

.....

[1]

(ii) $(8{\cdot}2 \times 10^{-4})$

.....

[1]

(b) Find, in standard form, the value of:

(i) $(4{\cdot}2 \times 10^{8}) \times (9{\cdot}1 \times 10^{4})$

.....

.....

[1]

(ii) $(6{\cdot}2 \times 10^{-9}) \div (8{\cdot}3 \times 10^{6})$

.....

.....

[1]