

Standard Form Using a Calculator

Using a calculator, work out the following, giving your answer in standard form.

- (a) $(1.25 \times 10^5) + (3.4 \times 10^5)$
- (b) $(2.7 \times 10^{-4}) - (1.28 \times 10^{-5})$
- (c) $(3.87 \times 10^{-2}) \times (5.3 \times 10^4)$
- (d) $\frac{4.152 \times 10^6}{1.73 \times 10^{-2}}$
- (e) $(7.3 \times 10^{-2})^2$
- (f) $\sqrt{(3.6 \times 10^{11})}$

- (a) 4.65×10^5
- (b) 2.572×10^{-4}
- (c) 2.0511×10^3
- (d) 2.4×10^8
- (e) 5.329×10^{-3}
- (f) 6×10^5

(a) Given that $F = ma$, find F when $m = 1.2 \times 10^{-12} \text{ g}$ and $a = 4.5 \times 10^9 \text{ m/s}^2$.

- (a) $5.4 \times 10^{-3} \text{ N}$
- (b) $2.8 \times 10^6 \text{ people}$

(b) Denmark has a population of 5.36×10^6 and Jamaica has a population of 2.56×10^6 . How many more people live in Denmark than in Jamaica?

(a) The mass of Saturn is 5.686×10^{26} tonnes and the mass of the Earth is 6.04×10^{21} tonnes. How many times heavier is Saturn than Earth?

- (a) 94 139 times
- (b) 14.2% (1dp)

(b) In 2009 the world population was 6.77×10^9 . In 2019 it was 7.73×10^9 . Calculate the percentage increase in population between 2009 and 2019.

(a) The population of Wales is 3.14×10^6 people. The annual spend on healthcare is £8 billion. Calculate the amount spent on healthcare per person in Wales each year, to the nearest pound.

- (a) £2548
- (b) $1.6615 \times 10^8 \text{ km}^3$

(b) The volume of four different oceans in km^3 are 1.88×10^7 , 3.1×10^8 , 2.64×10^8 and 7.18×10^7 . Find the mean volume of the four oceans, giving your answer in standard form.