

# Summer Term Maths Year 10

## Standard form using a calculator

Day  
4

Week 5

**1** Use your calculator to work out these calculations.

Give your answers in standard form to 3 significant figures.

(a)  $(3.26 \times 10^9) + (6.5 \times 10^7) = 3.33 \times 10^9$

(b)  $(5.6 \times 10^{-5}) - (3.2 \times 10^{-3}) = -3.14 \times 10^{-3}$

(c)  $(4.9 \times 10^{18}) \div (9.7 \times 10^7) = 5.05 \times 10^{10}$

(d)  $(3.8 \times 10^{12}) \times (2.41 \times 10^{10}) = 9.16 \times 10^{22}$

**2** The diameter of the planet Neptune is approximately  $4.95 \times 10^7$  m.  
Workout the circumference of Neptune and give your answer in standard form.

$1.56 \times 10^8$  m

**3** You are given  $a = 3.1 \times 10^5$ ,  $b = 5.2 \times 10^3$  and  $c = 9 \times 10^7$

Use your calculator to work out the value of these expressions in standard form to 3 sf.

(a)  $ab = 1.61 \times 10^9$

(b)  $c \div a = 2.90 \times 10^2$

(c)  $abc = 1.45 \times 10^{17}$

(d)  $a(b - c) = -2.79 \times 10^{13}$

(e)  $c(a + b) = 2.84 \times 10^{13}$

**4** Use your calculator to work out.

$3.528 \times 10^{10}$

$$\frac{(4.2 \times 10^9) \times (4.2 \times 10^7)}{(5 \times 10^6)}$$

# Summer Term Maths Year 10

## Standard form using a calculator

Day  
4

Week 5

**5** Use your calculator to work out the square roots below. Give your answer in standard form.

(a)  $\sqrt{2.5 \times 10^{17}}$        $5 \times 10^8$

(b)  $\sqrt{1.6 \times 10^{-7}}$        $4 \times 10^{-4}$

(c)  $\sqrt{9 \times 10^{30}}$        $3 \times 10^{15}$

**6** Mark has multiplied two numbers together on his calculator and got the answer  $3.5 \times 10^6$ . He knows that one number was 70000. Work out the other number. **50**

**7** The population of the UK in 1900 was 40 million.

The population in 2020 was  $6.72 \times 10^7$

(a) Work out the difference in population between 1900 and 2020. Give your answer in standard form.

$2.72 \times 10^7$

(b) Work out the percentage change in population from 1900 to 2020. **68% increase**

**8** A 10 kg bag of rice contains approximately  $5 \times 10^5$  grains of rice. Estimate how many grains of rice will be in five hundred 10kg bags.  $2.5 \times 10^8$