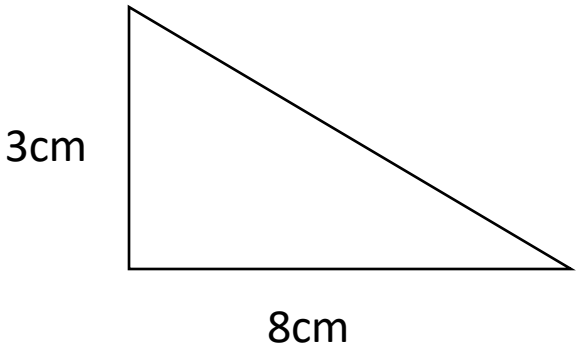
Standard Form

Learning Objectives

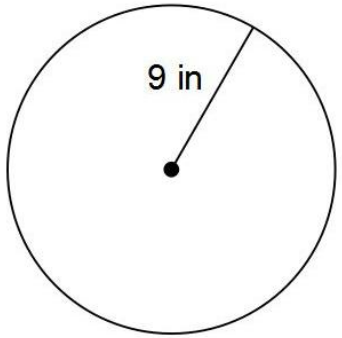
To be able to :

- Calculate with and interpret standard form

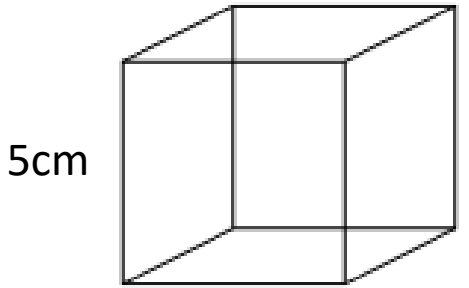
1) Find the area of this triangle.



2) Find the area and circumference of this circle.



3) Find the Surface Area of this shape.



Starter

Standard Form to Ordinary

Convert the following to ordinary numbers:

a) 3.5×10^4

b) 6.04×10^{-3}

Ordinary to Standard Form

Convert the ordinary numbers to standard form:

a) 1,034,000

b) 0.000078

Multiplying and Dividing

a) $(4.2 \times 10^4) \times (3 \times 10^3)$

b) $(2.4 \times 10^{-3}) \div (6 \times 10^5)$

Ordering Standard Form

Put these in ascending order:

9320 9.3×10^3 9.002×10^3

Converting From Standard Form

Convert these to an ordinary number:

1.24×10^{5}

3.004×10^{-4}

Your Turn…

1) Write the following as an ordinary number:

a) 3×10^{6}

b) 4×10^{2}

c) 9.4×10^{4}

d) 8.8×10^{5}

e) 3.56×10^{-4}

f) 4.23×10^{-2}

g) 7.20×10^{0}

1) Write these in descending order:

a) 3.4×10^{-4}, 0.034, 0.00034 x 10

b) A lift can carry a total amount of 1814kg. Benji weighs 8.5×10^{4} and Hugo weighs 93kg. How much more weight can the lift take?

Converting Ordinary Number to Standard Form

Converting these numbers into standard form:

931,000,000

0.0043

Your Turn...

Write these numbers in standard form:

a) 250
b) 1100
c) 350
d) 48,000
e) 5,900,000
f) 0.075
g) 0.00078
h) 0.07070

1) Mr Holland has 2500kg of rice.

a) Write 2500kg in grams. Give you answer in standard form.

b) One grain of rice weighs 0.03g. Write the weight of one grain of rice in standard form.

c) How many grains of rice are there in 2500kg of rice. Give your answer in standard form.

Multiplying and Dividing Standard Form

$(2 \times 10^3) \times (7 \times 10^4)$

$$\frac{4 \times 10^5}{8 \times 10^{-2}}$$

Your Turn…

1) $(8 \times 10^{7}) \div (8 \times 10^{4})$

2) $(7 \times 10^{10}) \times (5 \times 10^{9})$

3) $(4 \times 10^{12}) \div (5 \times 10^{5})$

4) $(6 \times 10^{-9}) \times (3 \times 10^{4})$

5) $(9 \times 10^{-2}) \times (8 \times 10^{-3})$

6) $(1.5 \times 10^{-5}) \div (3 \times 10^{-3})$

The distance from the moon to the Earth is 384,400km. The speed of light is 2.998×10^{8} m/s. Work out how long it will take to get from the moon to the earth.

Practise Paper Set 3 Paper 3

Work out $(5.85 \times 10^6) \div (1.3 \times 10^2)$

Give your answer in standard form.

[2 marks]

June 2018 Paper 1

Put these numbers in order from smallest to largest.

8×10^{-4} 4×10^{-2} 6×10^{-4} 0.07

[2 marks]