Maths Knowledge Organiser
YEAR 9 FOUNDATION – UNITS 11 to 15

chaseterraceacademy

Key Language

1	Faces	A flat surface of a 3D shape
2	Edges	Line formed by two edges joining together
3	Vertices	The corners of a shape
4	Prism	A 3D shape with flat surfaces and two end faces the same
5	Volume	Amount of space a 3D shape takes up
6	Capacity	How much 3D space is inside a shape
7	Plan	Birds-eye view of an object
8	Elevation	The view of the front or side of an object
9	Surface Area	Total area of all the surfaces on a 3D shape
10	Direct proportion	As one quantity increases, another increases at the same rate
11	Multiplier (Scale factor)	How many times larger a quantity/shape has been made
12	Significant figures	The number of digits that are meaningful (the ones with the highest place value)
13	Estimate	Process of getting an approximate answer
14	Solve	Work out the value that satisfies the problem
15	Unknown	A letter representing what you want to find out
16	Variable	Another word for unknown
17	Intersect	Where two lines cross (intersection)
18	Sequence	A set of numbers that follow a rule
19	n^{th} term	The algebraic expression that defines the rule of a sequence
20	Term (sequence)	A number in a sequence

Formulae to Learn

Volume of prism = area of cross section × length
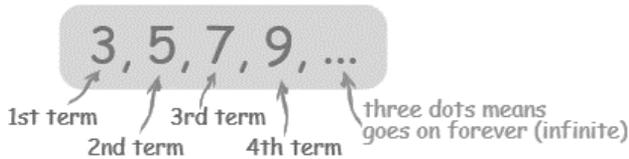

cross section

length
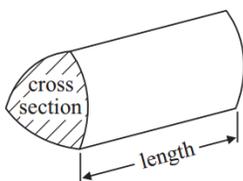
Know

More to Learn

Square numbers: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225
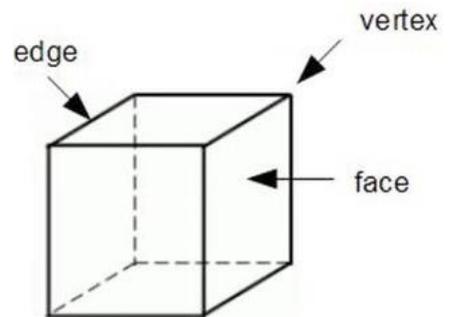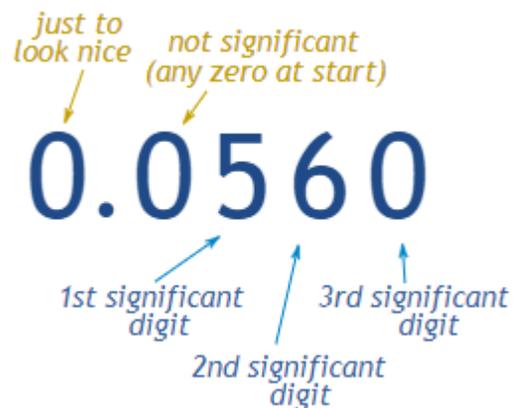Cube numbers: 1, 8, 27, 64, 125, 216, 343, 512, 729, 1000

Sequence:

3, 5, 7, 9, ...

1st term
2nd term
3rd term
4th term
three dots means
goes on forever (infinite)

("term", "element" or "member" mean the same thing)

$8.9 \approx 9$
8.9 is approximately equal to 9

edge
vertex
face

Notes Section:

just to
look nice

not significant
(any zero at start)

0.0560

1st significant
digit

2nd significant
digit

3rd significant
digit

ORDER OF OPERATIONS

G	GROUPING SYMBOLS ( ) { } [ ]
E	EXPONENTS 3^2 x^2 10^5
M	MULTIPLICATION **OR** DIVISION GO FROM LEFT TO RIGHT
S	SUBTRACTION **OR** ADDITION GO FROM LEFT TO RIGHT

Know

PRACTICE QUESTIONS

1. What do we call the flat surface of a 3D shape?

2. What is the line called that connects two faces together?

3. What is the proper name for the corner of a shape?

4. What 3D shape has two end faces the same and flat surfaces?

5. What do we call the amount of space a 3D shape takes up?

6. What is capacity?

7. What is a birds-eye view called?

8. What do we call views from the front or side?

9. What is surface area?

10. What relationship is it when two things increase at the same rate?

11. X and y are directly proportional, when x=3, y=5. What would x be if y=25?

12. What was the multiplier used in question 11?

13. What is the first significant figure in the number 3024?

14. What is the first significant figure in the number 0.0324?

15. Estimate an answer to (876 + 322) ÷ 3.9

16. What does 'solve the equation 3x + 2 = 17' mean?

17. Solve the equation 3x + 2 = 17

18. What do we use letters to represent in algebra?

19. What do we call the point where two lines cross?

20. What is a set of numbers that follow a rule?

21. What is the nth term?

22. What is the nth term of the sequence 1, 5, 9, 13, 17…

ANSWERS

1. Face
2. Edge
3. Vertices (vertex)
4. Prism
5. Volume
6. 3D space inside a shape
7. Plan
8. Elevations
9. Total area of all surfaces
10. Direct proportion
11. 15
12. 5
13. 3
14. 3
15. 300
16. Work out the value of x
17. 5
18. Unknowns/variables
19. Intersection
20. Sequence
21. Algebraic expression of the rule
22. 4n-3

Do