ST. MARY'S *Catholic High School, Dubai*

MATHEMATICS – Year 6

NAME _____ Year 6 _____ DATE _____

1. **Prime numbers**: Numbers with only two factors, one and itself.

Numbers	Prime numbers
1 - 10	2, 3, 5, 7
11 - 20	11, 13, 17, 19
21 - 30	23, 29
31 - 40	31, 37
41 - 50	41, 43, 47
51 - 60	53, 59
61 - 70	61, 67
71 - 80	71, 73, 79
81 - 91	83, 89
91 - 100	97

2. Square numbers: up to 15^2

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196

3. Cube numbers (up to 5^3)

1, 8, 27, 64, 125

4. Triangular numbers:

1, 3, 6, 10, 15, 21, 28, 36, 45, 55

5. Factors of 100. (Making 100)

1 x 100 = 100

2 x 50 = 100

4 x 25 = 100

5 x 20 = 100

10 x 10 = 100

6.

Fractions	Decimals	percentage
¼	0.25	25%
½	0.5	50%
¾	0.75	75%
$\frac{3}{10}$	0.3	30%
$\frac{7}{10}$	0.7	70%
$\frac{1}{5}$	0.2	20%
$\frac{2}{5}$	0.4	40%
$\frac{3}{5}$	0.6	60%
$\frac{4}{5}$	0.8	80%

7. Angles:

- Right angle - 90°
- Obtuse angle - more than 90° (less than 180°)
- Acute angle – less than 90°
- Straight line angle - 180°
- Reflex angle – more than 180°

8. **Some angle facts:**

- Angles on a straight line add up to 180°
- Angles in a triangle add up to 180°
- Angles around a point add up to 360°
- Base angles of an Isosceles triangle are equal.
- Angles in a quadrilateral add up to 360°
- Each angle in an Equilateral triangle measures 60°.
- All four corners of a rectangle /square measure 90° each.
- Vertically opposite angles are equal.

9. Triangles: (Closed shape with 3 sides)

- Equilateral triangle:
  - All angles equal (60°)
  - All sides equal
  - Three lines of symmetry
- Isosceles triangle
  - Two sides equal
  - Two angles equal (base angles)
  - One line of symmetry
- Right angled triangle
  - One angle with 90°
  - One line of symmetry, if it is **also** an isosceles triangle.
- Scalene triangle
  - No equal sides
  - No equal angles
  - No lines of symmetry

10. Quadrilaterals: (Closed shape with 4 sides)

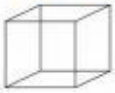
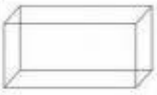
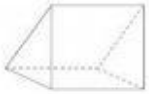
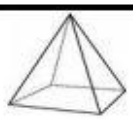
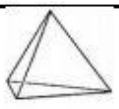
- Square
  - All sides equal
  - All angles equal (90°)
  - 4 lines of symmetry
- Rectangle
  - Opposite sides parallel and equal
  - All angles equal (90°)
  - Two lines of symmetry
- Parallelogram
  - Opposite sides parallel and equal
  - Angles are not 90°
- Rhombus
  - All four sides equal
  - Angles not 90°
- Trapezium
  - One pair of parallel line.
- Kite
  - Adjacent sides are equal
  - One line of symmetry

11. Other 2D Shapes:

- 3 sides - triangle
- 4 sides - quadrilateral
- 5 sides - pentagon
- 6 sides - hexagon
- 7 sides - heptagon
- 8 sides - octagon
- 9 sides - nonagon
- 10 sides - decagon

12. 3D shapes:

3D Shape Properties

Name	Shape	Edges	Faces	Vertices	2D shape
Cube		12	6	8	6 x squares
Cuboid		12	6	8	4 x rectangle 2 x square
Cylinder		2	3	0	2 circles 1 rectangle
Sphere		0	1	0	N/A
Cone		1	2	0	1 circle 1 semi-circle
Triangular Prism		9	5	6	3 x rectangle 2 x isosceles triangle
Square based pyramid		8	5	5	4 x isosceles triangle 1 x square
Tetrahedron		6	4	4	4 x equilateral triangles

13. Measures:

- **Length:**
  - **Km** ⟷ **m** ⟷ **cm** ⟷ **mm**
    - X 1000 (Km → m), ÷ 1000 (m → Km)
    - x 100 (m → cm), ÷ 100 (cm → m)
    - x 10 (cm → mm), ÷ 10 (mm → cm)

- Weight:
  - Kg ⟷ g
    - X 1000 (Kg → g)
    - ÷ 1000 (g → Kg)

- Capacity:
  - Litres ⟷ milliliters
    - X 1000 (Litres → milliliters)
    - ÷ 1000 (milliliters → Litres)

14. Time:

- 1 hour = 60 minutes
- 1 minute = 60 seconds
- 1 day = 24 hours
- 1 week = 7 days
- 1 year 365 days
  - Leap year = 366 days (every fourth year)
- Months: January, March, May, July, August, October, December ⟶ 31 days
  April, June, September, November ⟶ 30 days
  February - 28 days
  29 days in a leap year (fourth year)

- Decade = 10 years
- Century = 100
- 1 dozen = 12
- 1 score = 20

15. Formulae: (a) Area:

(i) Square: side x side (ii) Rectangle = l x b (iii) Triangle = ½ bh (iv) Parallelogram = bh

(b) perimeter.

(i) Square = 4 x side (ii) rectangle = 2 (l + b)

(iii) regular polygons = number of sides x length of a side

(iv) irregular polygons = sum of the sides.

(c) volume

(i) cube = side x side x side (iii) cuboid = l x b x h

(d) surface area

(i) cube = area of 1 face x 6 (6 s^2) (ii) cuboid = 2lb + 2bh + 2 lh

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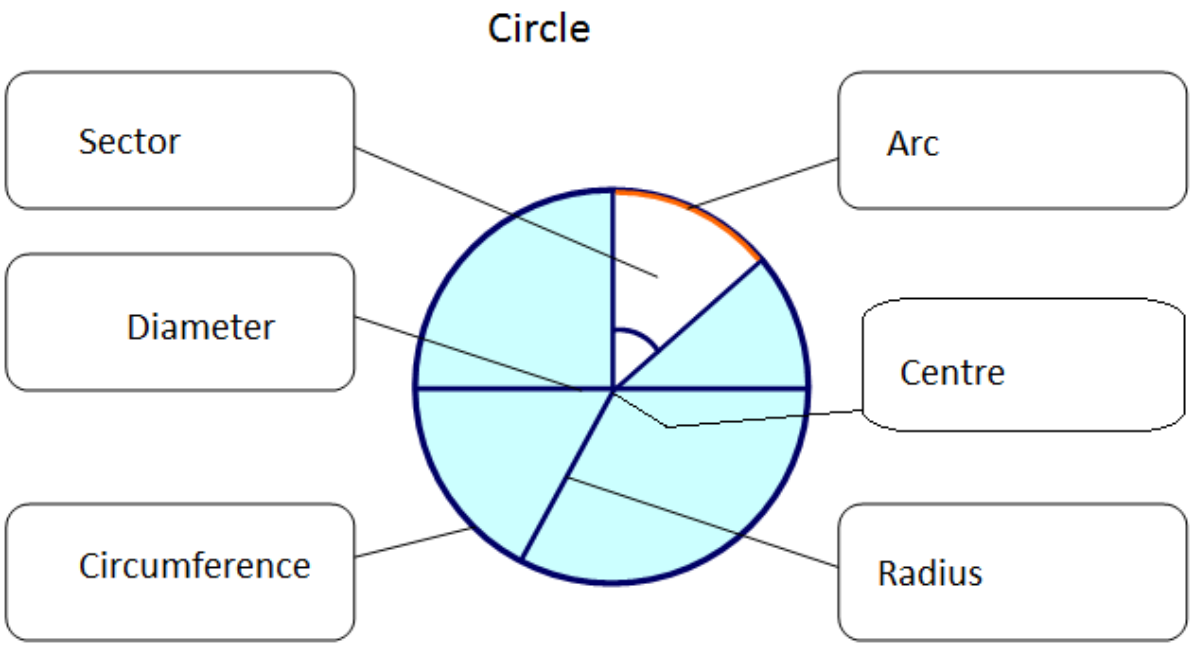
16.



17. ROMAN NUMERALS 1-100

1	I	21	XXI	41	XLI	61	LXI	81	LXXXI
2	II	22	XXII	42	XLII	62	LXII	82	LXXXII
3	III	23	XXIII	43	XLIII	63	LXIII	83	LXXXIII
4	IV	24	XXIV	44	XLIV	64	LXIV	84	LXXXIV
5	V	25	XXV	45	XLV	65	LXV	85	LXXXV
6	VI	26	XXVI	46	XLVI	66	LXVI	86	LXXXVI
7	VII	27	XXVII	47	XLVII	67	LXVII	87	LXXXVII
8	VIII	28	XXVIII	48	XLVIII	68	LXVIII	88	LXXXVIII
9	IX	29	XXIX	49	XLIX	69	LXIX	89	LXXXIX
10	X	30	XXX	50	L	70	LXX	90	XC
11	XI	31	XXXI	51	LI	71	LXXI	91	XCI
12	XII	32	XXXII	52	LII	72	LXXII	92	XCII
13	XIII	33	XXXIII	53	LIII	73	LXXIII	93	XCIII
14	XIV	34	XXXIV	54	LIV	74	LXXIV	94	XCIV
15	XV	35	XXXV	55	LV	75	LXXV	95	XCV
16	XVI	36	XXXVI	56	LVI	76	LXXVI	96	XCVI
17	XVII	37	XXXVII	57	LVII	77	LXXVII	97	XCVII
18	XVIII	38	XXXVIII	58	LVIII	78	LXXVIII	98	XCVIII
19	XIX	39	XXXIX	59	LIX	79	LXXIX	99	XCIX
20	XX	40	XL	60	LX	80	LXXX	100	C