

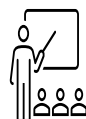


2020 Summer Olympics medal table^[1]

Rank	Team	Gold	Silver	Bronze	Total
1	United States (USA)	39	41	33	113
2	China (CHN)	38	32	18	88
3	Japan (JPN) [*]	27	14	17	58
4	Great Britain (GBR)	22	21	22	65
5	ROC (ROC)	20	28	23	71
6	Australia (AUS)	17	7	22	46
7	Netherlands (NED)	10	12	14	36
8	France (FRA)	10	12	11	33
9	Germany (GER)	10	11	16	37
10	Italy (ITA)	10	10	20	40
11	Canada (CAN)	7	6	11	24
12	Brazil (BRA)	7	6	8	21
13	New Zealand (NZL)	7	6	7	20
14	Cuba (CUB)	7	3	5	15
15	Hungary (HUN)	6	7	7	20
16	South Korea (KOR)	6	4	10	20
17	Poland (POL)	4	5	5	14
18	Czech Republic (CZE)	4	4	3	11
19	Kenya (KEN)	4	4	2	10
20	Norway (NOR)	4	2	2	8
21	Jamaica (JAM)	4	1	4	9
22	Spain (ESP)	3	8	6	17
23	Sweden (SWE)	3	6	0	9
24	Switzerland (SUI)	3	4	6	13
25	Denmark (DEN)	3	4	4	11
26	Croatia (CRO)	3	3	2	8
27	Iran (IRI)	3	2	2	7
28	Serbia (SRB)	3	1	5	9
29	Belgium (BEL)	3	1	3	7
30	Bulgaria (BUL)	3	1	2	6
31	Slovenia (SLO)	3	1	1	5
32	Uzbekistan (UZB)	3	0	2	5
33	Georgia (GEO)	2	5	1	8
34	Chinese Taipei (TPE)	2	4	6	12
35	Turkey (TUR)	2	2	9	13
36	Greece (GRE)	2	1	1	4
37	Uganda (UGA)	2	1	1	4
38	Ecuador (ECU)	2	1	0	3
39	Ireland (IRL)	2	0	2	4
40	Israel (ISR)	2	0	2	4
41	Qatar (QAT)	2	0	1	3
42	Bahamas (BAH)	2	0	0	2
43	Kosovo (KOS)	2	0	0	2
44	Ukraine (UKR)	1	6	12	19
45	Belarus (BLR)	1	3	3	7
46	Romania (ROU)	1	3	0	4
47	Venezuela (VEN)	1	3	0	4
48	India (IND)	1	2	4	7
49	Hong Kong (HKG)	1	2	3	6
50	Philippines (PHI)	1	2	1	4
51	Slovakia (SVK)	1	2	1	4



Maths Open Book Project



5 Carnations



Srivats Venkata Mandalika

Theme: Olympics - Citius, Altius, Fortius -
Communiter






1. Medal Tally and Scoring in Olympics:

The International Olympic Committee (IOC) does not officially recognize a ~~any~~ ranking of participating at the Olympic Games. Nevertheless, the IOC does publish medal tallies for information purposes, showing the total number of Olympic medals ~~earned~~ earned by athletes representing each country's respective National Olympic Committee. The convention used by the IOC is to sort by the number of gold medals the athletes from a country have earned. As the IOC does not consider its sorting of nations to be an official ranking system, various methods of ranking are used by the nations. Let us devise our own scoring system to calculate total points scored by a country.

Gold = 1 point Silver = $\frac{1}{2}$ points Bronze = $\frac{1}{4}$ points

<u>Rank</u>	<u>Country and Its Medals</u>	<u>Gold Points</u>	<u>Silver Points</u>	<u>Bronze Points</u>	<u>Total Score</u>
<u>1.</u>	<u>United States of America</u>				
	G S B	$39 \times 1 =$	$41 \times \frac{1}{2} =$	$33 \times \frac{1}{4} =$	$39 + \frac{41}{2} + \frac{33}{4}$
	39, 41, 33	39	$\frac{41}{2}$	33	$\frac{(156 + 82 + 33)}{4}$
			2	4	$= \frac{271}{4} = 67\frac{3}{4}$
					4 points
<u>2.</u>	<u>China</u>				
	G S B	$38 \times 1 =$	$38 \times \frac{1}{2} =$	$18 \times \frac{1}{4} =$	$38 + \frac{38}{2} + \frac{18}{4}$
	38, 32, 18	38	$\frac{38}{2}$	$\frac{18}{4}$	$\frac{(152 + 64 + 18)}{4}$
			2	4	$= \frac{234}{4} = 58\frac{1}{2}$ pts.
<u>3.</u>	<u>Japan</u>				
	G S B	$27 \times 1 =$	$14 \times \frac{1}{2} =$	$17 \times \frac{1}{4} =$	$27 + \frac{14}{2} + \frac{17}{4}$
	27, 14, 17	27	$\frac{14}{2}$	$\frac{17}{4}$	$\frac{(108 + 28 + 17)}{4}$
			2	4	$= \frac{153}{4} = 38\frac{1}{4}$ pts.
<u>4.</u>	<u>Great Britain</u>				
	G S B	$22 \times 1 =$	$21 \times \frac{1}{2} =$	$22 \times \frac{1}{4} =$	$22 + \frac{21}{2} + \frac{22}{4}$
	22, 21, 22	22	$\frac{21}{2}$	$\frac{22}{4}$	$\frac{(88 + 42 + 22)}{4}$
			2	4	$= \frac{153}{4} = 38$ pts.
<u>48.</u>	<u>India</u>				
	G S B	$1 \times 1 =$	$2 \times \frac{1}{2} =$	$4 \times \frac{1}{4} =$	$1 + 1 + 1 = 3$ pts.
	1, 2, 4	1	$\frac{2}{2} = 1$	$\frac{4}{4} = 1$	

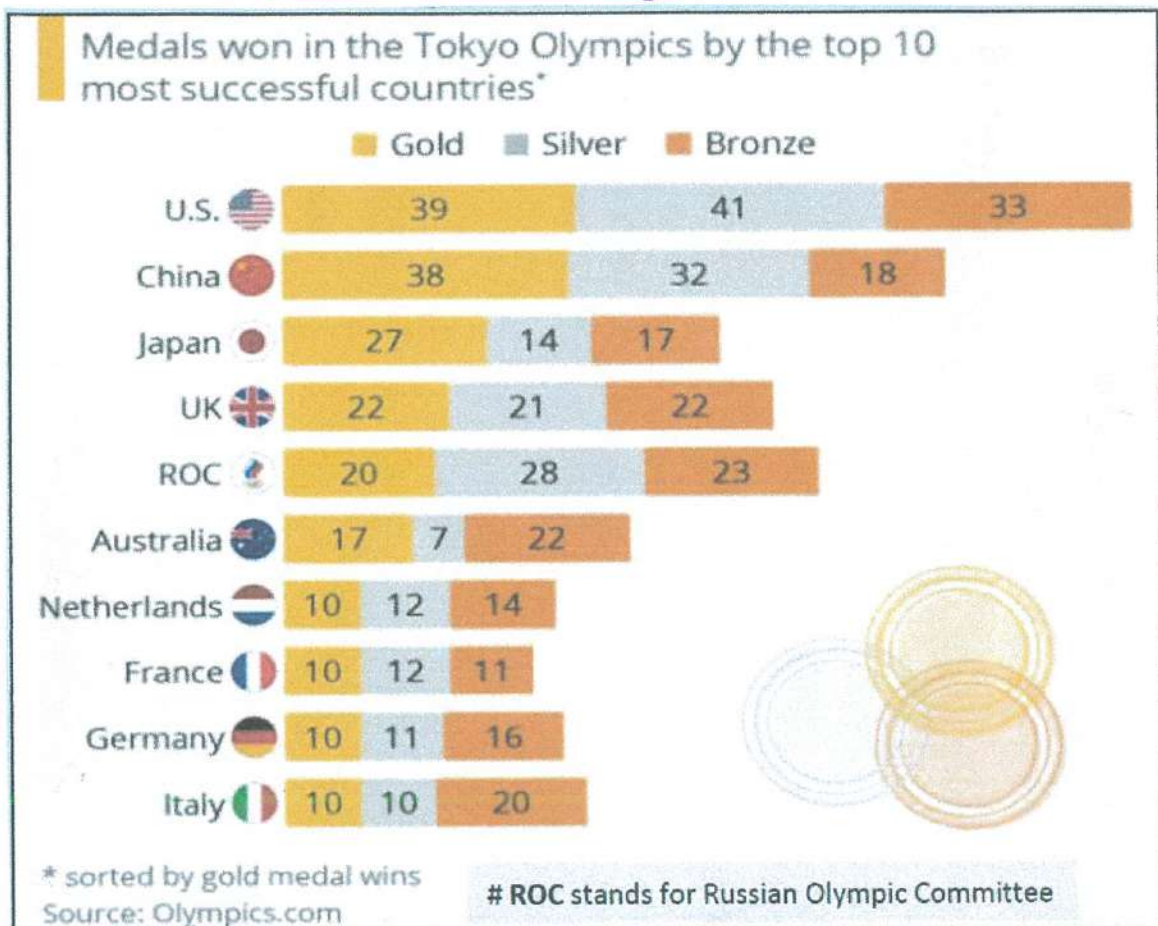
Table contd...

<u>Rank</u>	<u>Country</u>	<u>Total Score</u>	<u>Rank by our Scoring System</u>
<u>1.</u>	<u>United States of America</u>	$67\frac{3}{4}$ points	1 st 
<u>2.</u>	<u>China</u>	$58\frac{1}{2}$ points	2 nd 
<u>3.</u>	<u>Japan</u>	$38\frac{1}{4}$ points	3 rd 
<u>4.</u>	<u>Great Britain</u>	38 points	4 th 
<u>48.</u>	<u>India.</u>	3 points	48 th 



2. Performance Graph: Study the given graph carefully and answer the questions asked.

Medal Tally



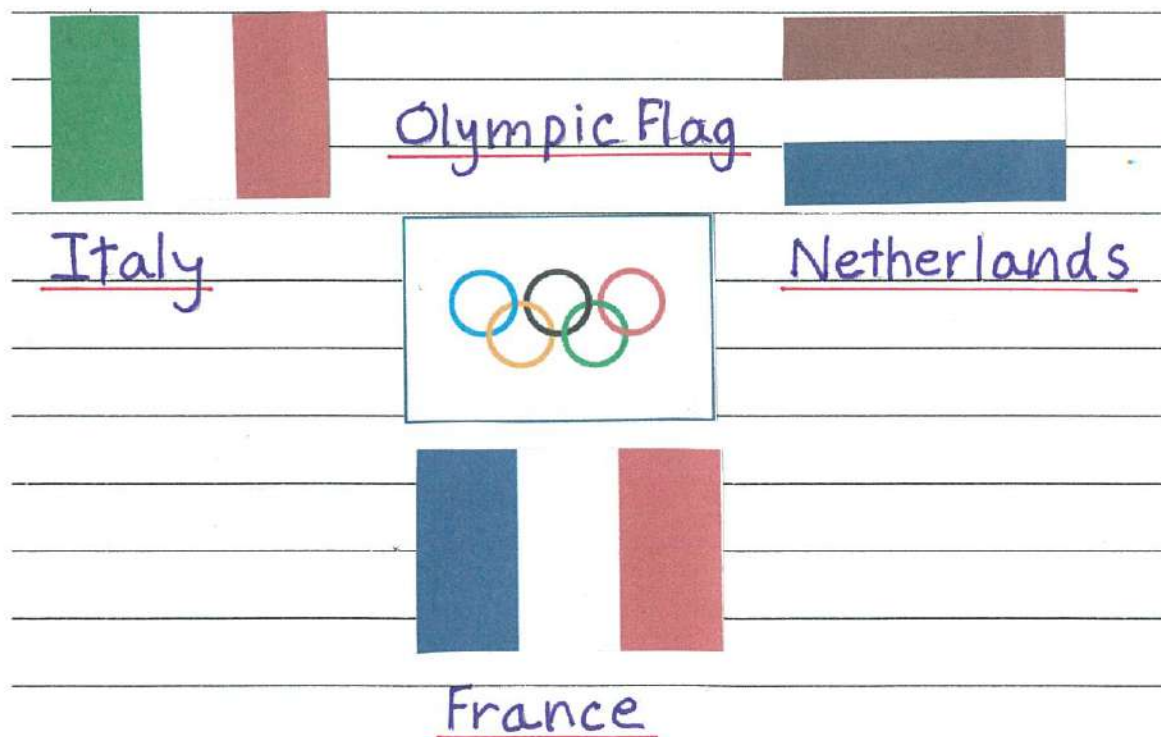
a) The country that won the maximum number of medals is - United States of America ($39 + 41 + 33 = 113$)

b) The country that won the least number of medals is - France ($10 + 12 + 11 = 33$)

c) Two country that have the same number of silver medals is - Netherlands and France

d) Any 1 country that has a greater number of total medals but is still lower rank than the other country is - Italy

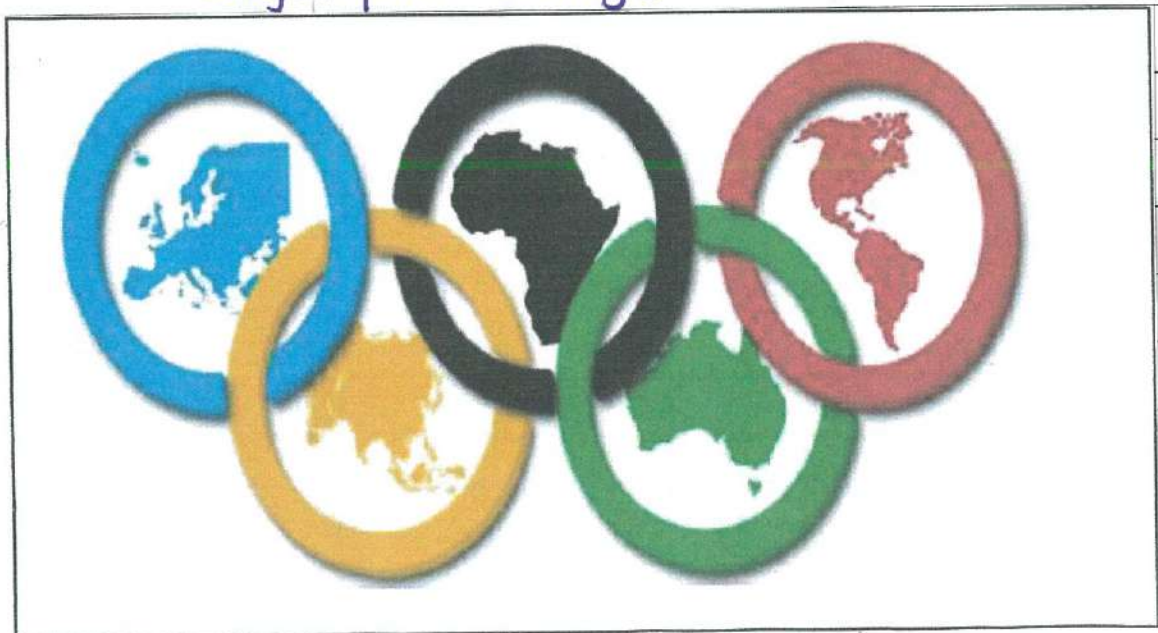
e) A country which has two more bronze medals than the China is - Italy



3. The Puzzled Rings: The rings symbolise the union of the five continents, the participation of the athletes at these games and express the activity of the Olympic movement. The five coloured rings represent the five inhabited continents of the world. These are - Africa, the America, Asia, Europe and Oceania. Let us find out the total no. of medals won by the 5 continents at the end of Tokyo 2020 Olympics by solving the clues given:

a) Blue Ring represents Africa - Total no. of medals ~~won~~ won is one half of 882 = 441

Olympic Rings



b) Black Ring represents Europe -

- It is a 5-digit no.
- The no. formed by the first two digits is the 4th multiple of 3.
- The no. formed by the next two digits is a prime no. that comes just after the 4th multiple of 3.
- The last digit at the ones place is the first composite no.

The total no. of medals won by Europe is -
12134

c) Red Ring represents Oceania -

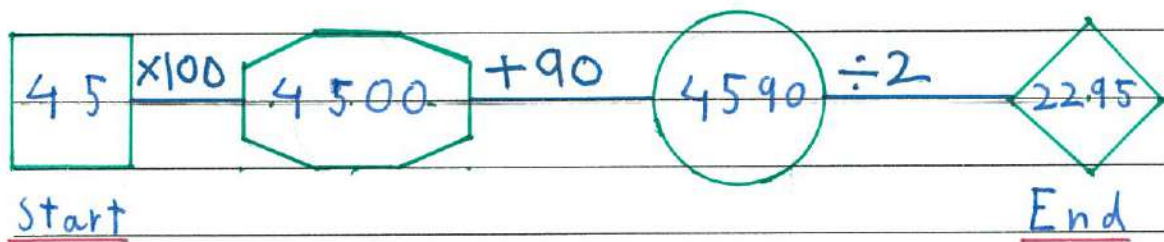
Total no. of medals won is one third of 2151 =
717

d) Yellow Ring represents America -

The total no. of medals won by America is - 4250

- The digit in the ones place will make the no. divisible by 5 as well as 10.
- The digit in the hundreds place is the only even prime no.

e) Green Ring represents Asia - Total no. of medals is the no. in the end box of the given sum = 2295



4. Make your own Mascot.

Meet Invincibility.

My Mascot derives the name from invincible and city. It indicates the strength of the city and its people to overcome any difficulty and we are invincible. My Mascot has the following unique features:-

- * Popped out eyes indicate the desire to explore, go in-depth and practice till you succeed.
- * The fat stomach displays its ability to consume all information.
- * The strong legs indicate the strength to go far with lot of energy.
- * The hands display its agility to adapt to any condition.
- * The small ears are like antennae and indicates that it accepts only required information and blocks all negative things.
- * The convection cap depicts success and victory.
- * The multi-colour scarf depicts unconditional love, sign of hope and exude

feeling of tranquillity.

* This mascot will exuberate a feeling of togetherness and invincibility.

Shapes Used:

Solid shapes - Sphere, Cylinder, Cuboid.

Plane shapes - Circle, Square, Rectangle.



Invincity