



Aakash

Medical | IIT-JEE | Foundations

KNOWLEDGE BYTES

NOVEMBER 2024

CLASS 8





Aakash

Medical | IIT-JEE | Foundations

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PREFACE

What is Knowledge Bytes ?

Knowledge Bytes is a collection of riddles, interesting facts, mnemonics, and puzzles that will make your learning fun and engaging.

We want you to be delighted about studying. Knowledge Bytes helps you to know more about the subject in a fun, motivating and educational way and helps to implement what you learn in a creative way.

Benefits



Saves Time



Develops Learning Skills



Stimulates Interest



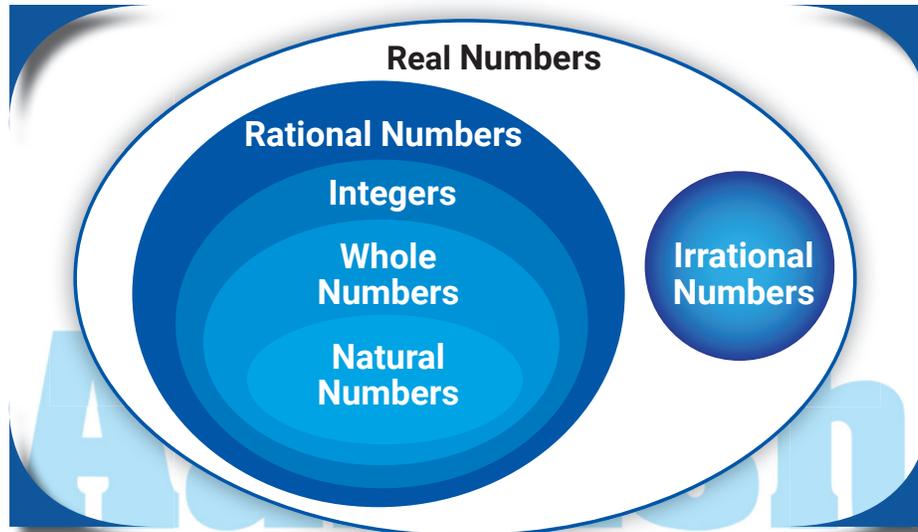
Leads to Increased Comprehension

EXPLORE

- | | |
|--|-------|
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Relevance of Numbers and Special Types of Numbers

Number Systems



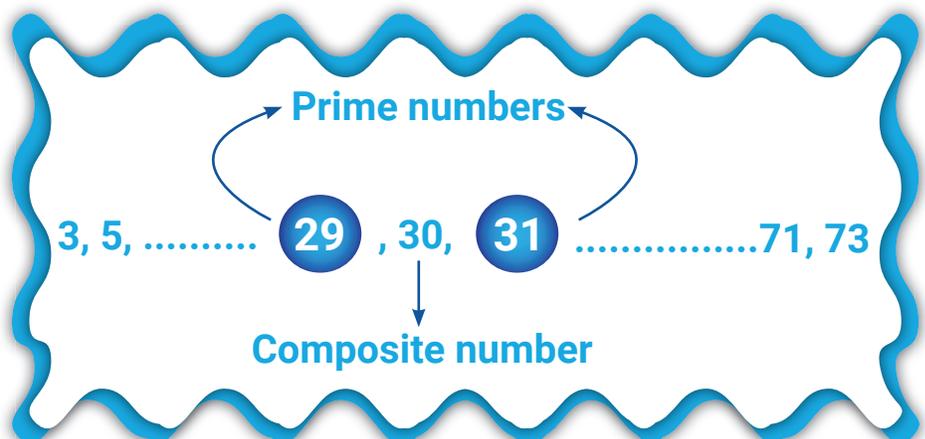
Special Types of Numbers

(1) Twin Prime Numbers

Twin primes are primes whose difference is 2, and only one composite number in between them

29, 31 are twin prime numbers

Difference is : $31 - 29 = 2$



(2) Mersenne Prime

A prime number that is one less than the prime power of 2. It is represented as $M_p = 2^p - 1$, for some prime 'p'.

Mersenne primes are 3, 7, 31, 127, 8191, 131071 etc.

$2^{11} - 1 = 2047 = 23 \times 89$, but it is not prime, so it is the smallest number with prime exponent which is not mersenne prime.

Till October 2020, 51 mersenne primes are known.

Largest prime number which is a mersenne prime is $2^{82,589,933} - 1$.

For eg. :

$$2^2 - 1 = 3$$

$$2^3 - 1 = 7$$

$$2^5 - 1 = 31$$

$$2^7 - 1 = 127$$

(3) Perfect Number

A Perfect Number N, is a positive integer which is equal to the sum of its factors, excluding N itself.

A perfect number can be represented as

$N = 2^{p-1} (2^p - 1)$, where p is some prime number and $2^p - 1$ is mersenne prime.

Smallest perfect number is 6.

Proper factors of 6 are 1, 2 and 3.

$$\text{So, } 6 = 1 + 2 + 3$$

Some perfect numbers are 6, 28, 496, 8128 and many more.

Proper factors of 28 are 1, 2, 4, 7 and 14.

$$\text{So, } 28 = 1 + 2 + 4 + 7 + 14$$

(4) Narcissistic Number

Any n-digit number that can be written as sum of the n^{th} power of its digits is called narcissistic or armstrong number.

All 1-digit numbers are narcissistic.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

No 2-digit number is narcissistic.

3-digit :

$$153 = 1^3 + 5^3 + 3^3 = 1 + 125 + 27 = 153$$

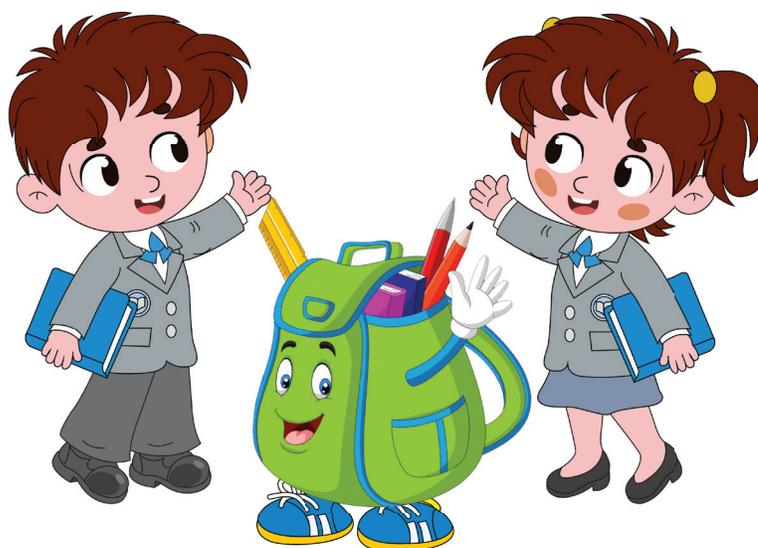
$$370 = 3^3 + 7^3 + 0^3 = 370$$

$$371 = 3^3 + 7^3 + 1^3 = 371$$

$$407 = 4^3 + 0^3 + 7^3 = 407$$

Similarly, we can find 4-digit, 5-digit narcissistic numbers and so on.

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Comparing Quantities Shortcuts

Easy Method to Calculate Percentage

- (a) **20% of 40 (when one zero at the end of both numbers)**

Cancel zeroes from both numbers.

$$2\cancel{0} \quad 4\cancel{0}$$

Now multiply two numbers left

$$2 \times 4 = 8$$

- (b) **30% of 18 (when one zero at the end of one number)**

Now zero is only with one number, so we will cancel that zero from 30% and put decimal at left side of unit's digit of other number i.e. 1.8 and then multiply.

So, it will be $3\cancel{0} \quad 1.8$

$$3 \times 1.8 = 5.4$$

- (c) **25% of 45 (no zeroes at the end of both numbers)**

What to do here is, put decimal at left side of unit's digit of each number and then multiply.

$$2.5 \times 4.5 = 11.25$$

Important Formulas for Percentage

1. Percent implies "for every hundred". $x\%$ is read as x per cent.

2. To calculate $p\%$ of y

$$\left(\frac{p}{100}\right) \times y = \frac{(p \times y)}{100}$$

$$p\% \text{ of } y = y\% \text{ of } p$$

3. To find what percentage of x is y : $\frac{y}{x} \times 100$

4. To calculate percentage change in value

$$\text{Percentage change} = \left\{ \frac{\text{change}}{(\text{initial value})} \right\} \times 100$$

5. Percentage point change = Difference of two percentage figures

$$6. \text{ Increase } x \text{ by } y\% = x \left(1 + \frac{y}{100} \right)$$

$$7. \text{ Decrease } x \text{ by } y\% = x \left(1 - \frac{y}{100} \right)$$

8. If the value of an item goes up/down by $x\%$, the percentage reduction / increment to be now made to bring it back to the original point is

$$\frac{100x}{(100 + x)} \%$$

9. If A is $x\%$ more / less than B, then B is $\frac{100x}{(100 + x)}\%$ less/more than A.

10. If the price of an item goes up/down by $x\%$, then the quantity consumed should be reduced by $\frac{100x}{(100 + x)}\%$ so that the total expenditure remains the same.

11. Successive Percentage Change
If there are successive percentage increases of $a\%$ and $b\%$, the effective percentage increase is :

$$\left(a + b + \frac{ab}{100}\right)\%$$

12. Percentage - Ratio Equivalence :

$\frac{1}{3} \times 100 = 33.33\%$	$\frac{1}{10} \times 100 = 10\%$
$\frac{1}{4} \times 100 = 25\%$	$\frac{1}{11} \times 100 = 9.09\%$
$\frac{1}{5} \times 100 = 20\%$	$\frac{1}{12} \times 100 = 8.33\%$
$\frac{1}{6} \times 100 = 16.66\%$	$\frac{1}{13} \times 100 = 7.69\%$
$\frac{1}{7} \times 100 = 14.28\%$	$\frac{1}{14} \times 100 = 7.14\%$
$\frac{1}{8} \times 100 = 12.5\%$	$\frac{1}{15} \times 100 = 6.66\%$
$\frac{1}{9} \times 100 = 11.11\%$	$\frac{1}{16} \times 100 = 6.25\%$

Properties of Ratio and Proportion



Properties	Formulae
Invertendo : If $a : b = c : d$, then	$b : a :: d : c$ or $\frac{b}{a} = \frac{d}{c}$
Alternendo : If $a : b = c : d$, then	$a : c :: b : d$ or $\frac{a}{c} = \frac{b}{d}$
Componendo : If $a : b = c : d$, then	$\frac{a+b}{b} = \frac{c+d}{d}$
Dividendo : If $a : b = c : d$, then	$\frac{a-b}{b} = \frac{c-d}{d}$
Componendo & Dividendo : If $a : b = c : d$, then	$\frac{a+b}{a-b} = \frac{c+d}{c-d}$

MANAJOJI



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Types of ratio	Formulae
Compounded ratio of : $a : b$ and $c : d$	$ac :: bd$ or $\frac{ac}{bd}$
Duplicate ratio of : $a : b$	$a^2 : b^2$ or $\frac{a^2}{b^2}$
Triplicate ratio of : $a : b$	$a^3 : b^3$ or $\frac{a^3}{b^3}$
Sub-duplicate ratio of : $a : b$	$\sqrt{a} : \sqrt{b}$ or $\frac{\sqrt{a}}{\sqrt{b}}$
Sub-triplicate ratio of : $a : b$	$(a)^{\frac{1}{3}} : (b)^{\frac{1}{3}}$ or $\frac{(a)^{\frac{1}{3}}}{(b)^{\frac{1}{3}}}$



Force and Pressure

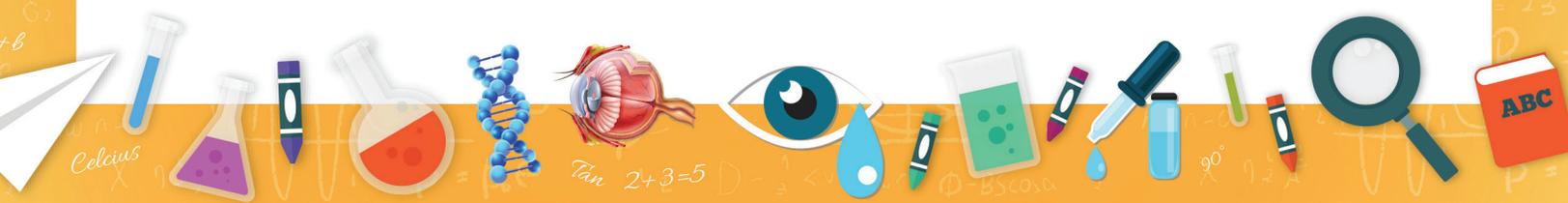
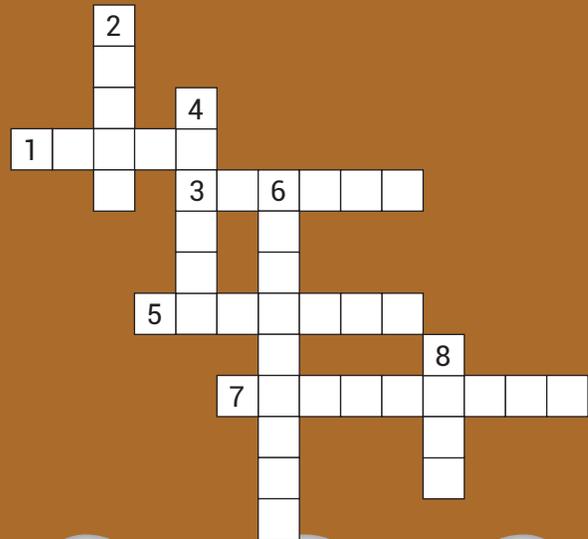
Crossword

ACROSS

- 1 A push or pull is called _____.
- 3 Spring balance is a device used for measuring _____.
- 5 _____ depends on mass of body.
- 7 Atmospheric pressure is measured by _____.

DOWN

- 2 A _____ knife exerts more pressure than a blunt one.
- 4 SI unit of force is _____.
- 6 As we go deep into the sea, pressure _____.
- 8 Weight of a body becomes _____ at the center of earth.



Interesting Facts

1. **Thrust** : The force acting on an object perpendicular to its surface is called thrust.
2. **Pressure** : The thrust per unit area is called pressure. It is a scalar quantity. Its unit is $\frac{\text{N}}{\text{m}^2}$ or pascal.
3. **Density** : It is defined as the mass of the substance per unit volume.
4. **Archimedes' principle** : When a body is partially or fully immersed in a fluid, it experiences an upthrust which is equal to the weight of the fluid displaced by the immersed part of the body.
5. **Laws of floatation** : When a solid body floats in a fluid, then the weight of the floating body is equal to the weight of the liquid displaced by the immersed part of the solid.
6. **Hydrostatic pressure** : The pressure exerted by a fluid at equilibrium at a point inside it is called hydrostatic pressure. Hydrostatic pressure increases with increase in depth because of the increasing weight of fluid exerting downward force from the above.

$$P = h\rho g$$

The total pressure at a point inside the liquid is the sum of hydrostatic pressure and atmospheric pressure.

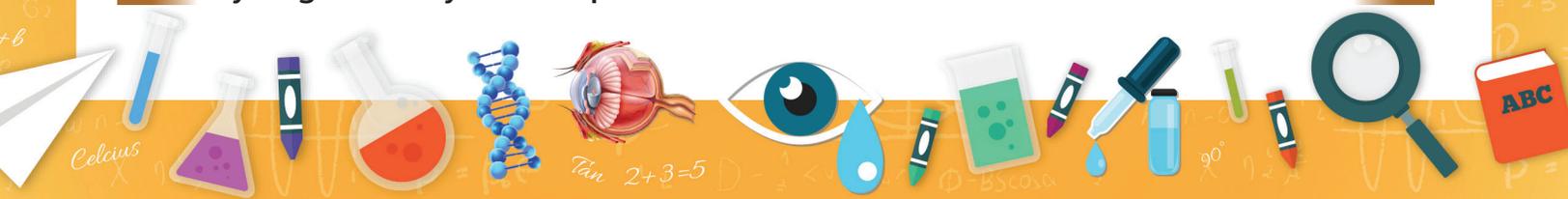
$$P_{\text{total}} = P_0 + h\rho g$$

↓ ↓
Atmospheric Hydrostatic
pressure pressure

Scientist's Information and Their Contribution

Blaise Pascal

In the field of physics, Blaise contributed to the study of atmospheric pressure by discovering that vacuum are real and exist in the real world. From his study of atmospheric pressure, he invented the syringe and hydraulic press.



Quiz

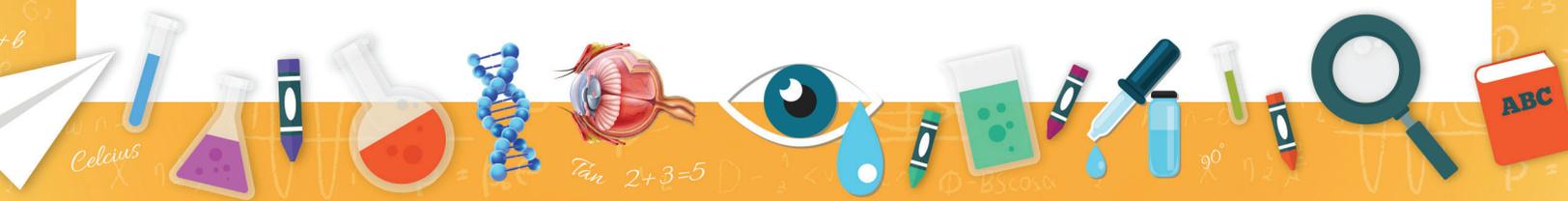
1. The force that acts on an object perpendicular to its surface is
- (a) Pressure (b) Thrust
(c) Weight (d) Both (a) and (b)

2. One newton per meter square is termed
- (a) Pascal (b) Hooke
(c) Einstein (d) Hawking

3. Pressure exerted at a point in a liquid is equal in magnitude in all directions. Pressure is a
- (a) Vector quantity (b) Scalar quantity
(c) Both (a) and (b) (d) None of these

4. The increase in pressure of a liquid at a point is transmitted to all other parts of the liquid without any change. This is
- (a) Newton's law (b) Hooke's law
(c) Pascal's law (d) None of these

5. Pressure (P) exerted by liquids depends on their density (ρ), acceleration due to gravity (g) and the height (h) of the liquid column. Mathematically it is given by :
- (a) $P = \rho gh^2$ (b) ρgh
(c) $P = \rho^2 gh$ (d) $\rho^2 g^2 h$



Answer (Crossword)



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Answer (Quiz)

1. (b) Thrust

2. (a) Pascal

3. (b) Scalar quantity

4. (c) Pascal's law

5. (b) $rg h$



Synthetic Fibres and Plastics, Coal and Petroleum

Fun Facts About History of Oil

- ✦ The etymology of “petroleum” is derived from Ancient Greek words “pétra” (rock) and “élaion” (oil).
- ✦ Petroleum has been used for more than 5,000 years.
- ✦ The first known oil wells were drilled nearly 2,000 years ago in today’s China. Early engineers used bamboo to dig and extract crude oil.
- ✦ Oil was first distilled into kerosene in Persia during the 9th century.
- ✦ The first modern oil well was drilled in 1853 in today’s Poland, and immediately took off around the world.
- ✦ Thanks to kerosene production, by the late 1800s, there was a rapid decline in whale hunting (whale blubber was used for lamp fuel).
- ✦ John D. Rockefeller (a 19th-century oil tycoon) was the world’s wealthiest man. In today’s dollars, his net worth would be \$1.4 trillion.



Oil Spill Trivia

- ◆ In 2010, the largest oil spill took place in the Gulf of Mexico. A surge of natural gas burst through the core of the Deepwater Horizon rig, spilling around 4 million barrels of oil and killing 11 workers.
- ◆ Though BP (the responsible oil company for the Deepwater Horizon explosion) claimed to have lost 1,000 barrels per day, US officials calculated that it may have been more than 60,000 barrels per day.
- ◆ According to a major study, approximately 80% of all oil spills are caused by human error.

Facts About Oil Consumption

- ⦿ As a non-renewable resource, “peak oil” refers to the point in time when the oil industry is extracting the greatest amount of petroleum possible.
- ⦿ After “peak oil”, production will decline and costs are predicted to rise dramatically for the remaining amount.
- ⦿ Most oil experts state that “peak oil” will occur by 2050, though some believe that we’ve already reached this point.



Facts About Synthetic Fibres & Coal and Petroleum

- ◆ The most expensive fibre in the world comes from the Vicuna which is a type of camel. It is the softest and rarest fibre in the world which is a result of its fineness.
- ◆ Speedo developed a swimsuit which led to breaking world records in the Beijing 2008 Olympics in the swimming. But did you know that actually an incredible 46 records were broken and 94% of them were achieved by athletes wearing this innovative suit. This led to the international swimming federation placing a ban on this swim gear.
- ◆ Coal is the world's largest source of energy for the production of electricity.
- ◆ Coal is used for generating electricity by being burned in a furnace with a boiler. The boiler water is heated until it becomes steam, which drives the turbines and generators convert this mechanical energy to electricity.
- ◆ Nearly 70% of China's electricity comes from coal. In total, coal produces around 40% of the world's electricity.
- ◆ China is the world's leading producer of coal. The second-leading producer is the US, with India ranking as the third, Australia as the fourth, and South Africa as the fifth.
- ◆ Oil is also referred as "Texas Tea" and "Black Gold."
- ◆ Oil and gas have played an important role throughout the world history. Ancient cultures used crude oil as a substance for binding materials and as a sealant for waterproofing various surfaces.



Quiz

Q.1

Which among the following is the purest form of carbon?

- (a) Coal
- (b) Coke
- (c) Coal tar
- (d) Coal gas

Q.2

Which one of the following is known as "black gold"?

- (a) Old gold
- (b) Coal
- (c) Graphite
- (d) Petroleum

Q.3

Which one of the following is not an inexhaustible natural resource of energy?

- (a) Sunlight
- (b) Air
- (c) Water
- (d) Coal

Q.4

The fuel used in jet aircrafts is

- (a) Petrol
- (b) Diesel
- (c) Kerosene
- (d) Coal

Q.5

_____ is an example of natural polymer

- (a) Rayon
- (b) Cellulose
- (c) Nylon
- (d) Acrylic

Q.6

The raw material used in making nylon is/are

- (a) Wood pulp
- (b) Cellulose
- (c) Coal, water, air
- (d) Glucose



Answer (Quiz)

Q.1 (b) Coke

Q.2 (d) Petroleum

Q.3 (d) Coal

Q.4 (c) Kerosene

Q.5 (b) Cellulose

Q.6 (c) Coal, water, air

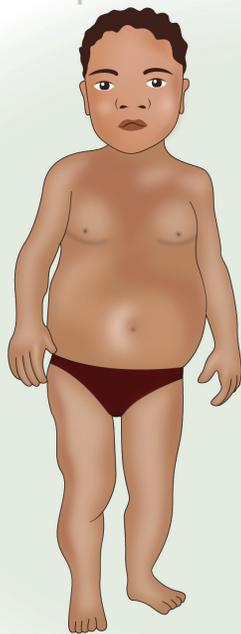


Microorganisms and Reproduction in Animals

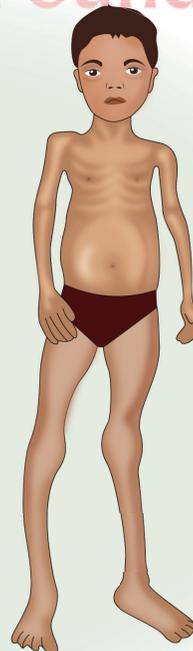
Interesting Facts

- ★ **Tetanus (Lock Jaw)** : It is caused by the bacterium *Clostridium tetani*. The first indications of this disease are irritability and restlessness, the neck becomes stiff and there is difficulty in chewing and swallowing. Subsequently spasms of jaw muscles and face take place and thus "Lock Jaw" occurs. There is severe pain and it is often a fatal disease.
- ★ **Protein Energy Malnutrition (PEM)** : It is an important nutritional problem among pre-school children. It leads to various degrees of growth retardation. This is due to lack of adequate quantity of protein or carbohydrate or both, in the diet.

PEM is of two types : Kwashiorkor and Marasmus



Kwashiorkor



Marasmus

Quiz

1.

Out of the following diseases, which ones are caused due to bacterial infection?

- | | |
|---------------------|-------------------|
| (a) Typhoid | (b) Elephantiasis |
| (c) Cholera | (d) Tuberculosis |
| (1) a and b only | (2) b and c only |
| (3) a, c and d only | (4) a, b, c and d |

2.

HIV does not spread by

- (1) Sexual contact with infected persons
- (2) By transfusion of contaminated blood and blood products
- (3) Infected mother to her child through placenta
- (4) Sharing bedsheets, towels and combs with infected person

Answer (Quiz)

1.

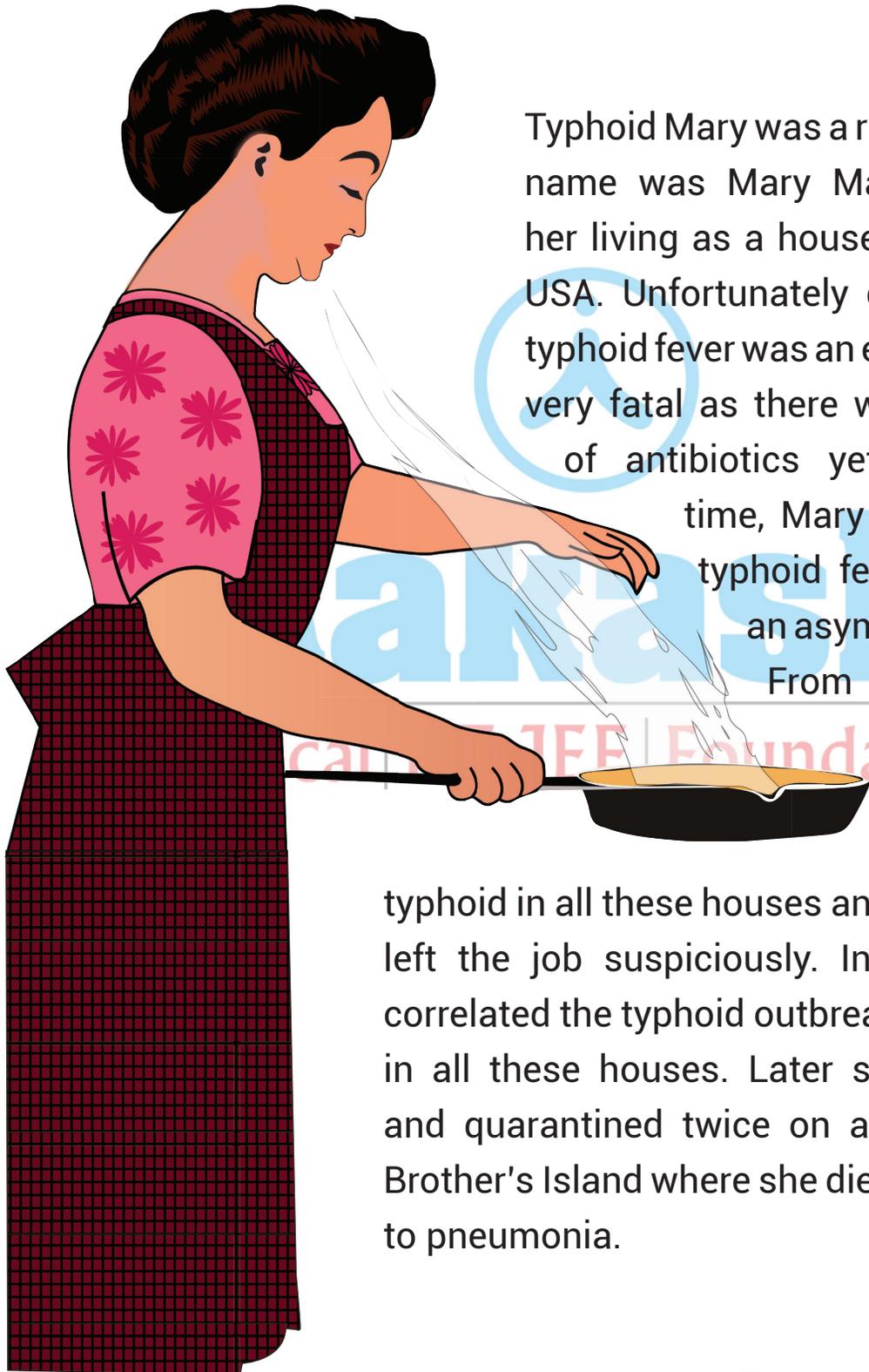
(3) a, c and d

2.

(4) Sharing bedsheets, towels and combs with infected person



The Story of Typhoid Mary



Typhoid Mary was a real person whose name was Mary Mallon. She made her living as a household cook in the USA. Unfortunately during that time, typhoid fever was an epidemic and was very fatal as there was no discovery of antibiotics yet. At the same time, Mary was exposed to typhoid fever but she was an asymptomatic carrier. From 1900-1907, she worked for 8 households spreading typhoid in all these houses and upon discovery left the job suspiciously. In 1907, a doctor correlated the typhoid outbreak and cook Mary in all these houses. Later she was arrested and quarantined twice on an isolated North Brother's Island where she died in isolation due to pneumonia.

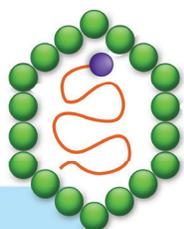


Members of Hepatitis Virus Family

Virus

Hepatitis A Virus

Genetic material : RNA
Mode of transmission : Contaminated Water



Hepatitis B Virus

Genetic material : DNA
Mode of transmission : Blood transfusion, Sexual contact



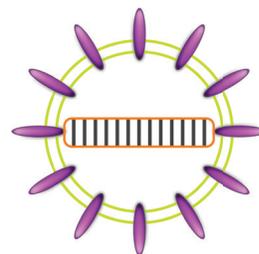
Hepatitis C Virus

Genetic material : RNA
Mode of transmission : Blood transfusion



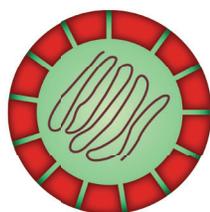
Hepatitis D Virus

Genetic material : RNA
Mode of transmission : Blood transfusion (usually along with HBV)



Hepatitis E Virus

Genetic material : RNA
Mode of transmission : Contaminated water



Jumbled Letter

Reproduction

V	X	S	Z	D	P	Q	W	P	P	G	W	T	S	D	C	V
Z	J	Q	Q	C	O	V	I	D	U	C	T	D	B	I	D	V
Z	L	O	J	V	W	J	D	F	K	M	L	T	Q	M	R	H
I	U	P	E	N	I	S	H	V	N	F	H	X	F	X	A	T
B	R	E	V	H	V	A	P	F	Z	T	A	D	R	K	U	E
H	E	E	E	M	Q	N	J	E	J	J	K	F	C	Q	Y	S
B	T	L	B	J	B	X	L	M	K	T	R	I	U	E	V	T
I	H	M	E	T	A	M	O	R	P	H	O	S	I	S	U	O
R	R	N	N	T	M	U	O	Y	A	B	O	G	U	X	U	S
R	A	M	E	H	O	B	S	P	Y	H	T	R	H	V	Y	T
L	A	V	D	A	Q	A	X	W	M	I	P	F	G	E	M	E
G	K	M	N	X	L	T	E	Q	H	K	D	T	E	Y	F	R
E	S	E	Z	P	W	U	L	F	O	A	D	O	A	D	F	O
Z	V	A	M	Z	F	S	V	U	W	I	B	F	U	B	W	N
D	I	A	O	V	I	P	A	R	O	U	S	J	E	I	X	E
T	A	D	P	O	L	E	G	Y	E	H	L	M	E	U	B	U
Y	D	L	E	E	U	W	E	N	H	S	T	A	M	E	N	S

Find the correct terms in the jumbled letters by using the hints given below.

1. Larva of frog.
2. Egg laying animals.
3. Common passage for sperm and urine in males.
4. Process of gradual transformation of larva into adult.
5. Site of fertilization in females.
6. Male sex hormone.
7. Male copulatory organ.



Answer (Jumbled Letter)

Reproduction

V	X	S	Z	D	P	Q	W	P	P	G	W	T	S	D	C	V
Z	J	Q	Q	C	O	V	I	D	U	C	T	D	B	I	D	V
Z	L	O	J	V	W	J	D	F	K	M	L	T	Q	M	R	H
I	U	P	E	N	I	S	H	V	N	F	H	X	F	X	A	T
B	R	E	V	H	V	A	P	F	Z	T	A	D	R	K	U	E
H	E	E	E	M	Q	N	J	E	J	J	K	F	C	Q	Y	S
B	T	L	B	J	B	X	L	M	K	T	R	I	U	E	V	T
I	H	M	E	T	A	M	O	R	P	H	O	S	I	S	U	O
R	R	N	N	T	M	U	O	Y	A	B	O	G	U	X	U	S
R	A	M	E	H	O	B	S	P	Y	H	T	R	H	V	Y	T
L	A	V	D	A	Q	A	X	W	M	I	P	F	G	E	M	E
G	K	M	N	X	L	T	E	Q	H	K	D	T	E	Y	F	R
E	S	E	Z	P	W	U	L	F	O	A	D	O	A	D	F	O
Z	V	A	M	Z	F	S	V	U	W	I	B	F	U	B	W	N
D	I	A	O	V	I	P	A	R	O	U	S	J	E	I	X	E
T	A	D	P	O	L	E	G	Y	E	H	L	M	E	U	B	U
Y	D	L	E	E	U	W	E	N	H	S	T	A	M	E	N	S

- TADPOLE
- METAMORPHOSIS
- PENIS
- OVIPAROUS
- OVIDUCT
- URETHRA
- TESTOSTERONE



NTSE Important Topic

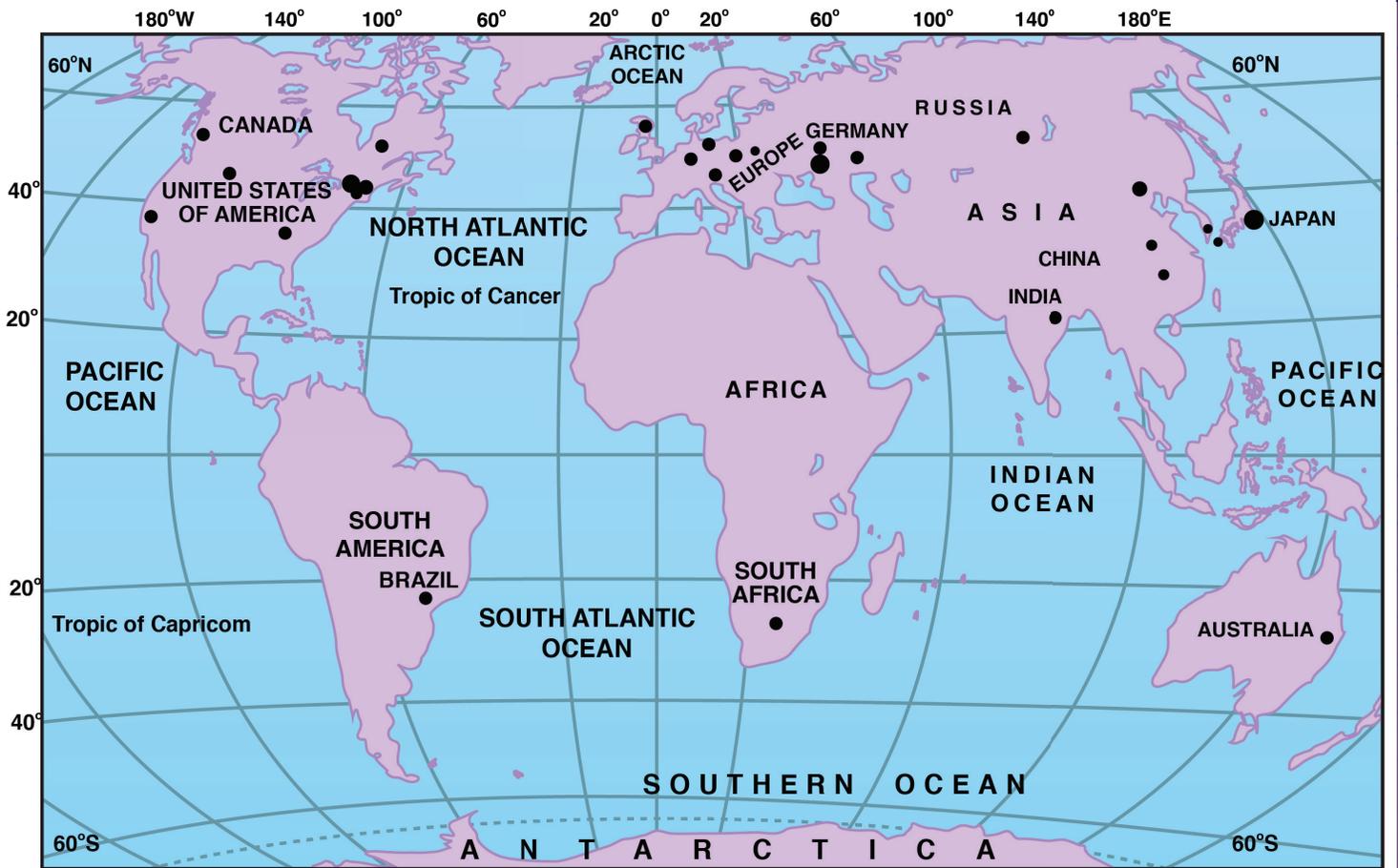
World's Industrial Regions



Celsius



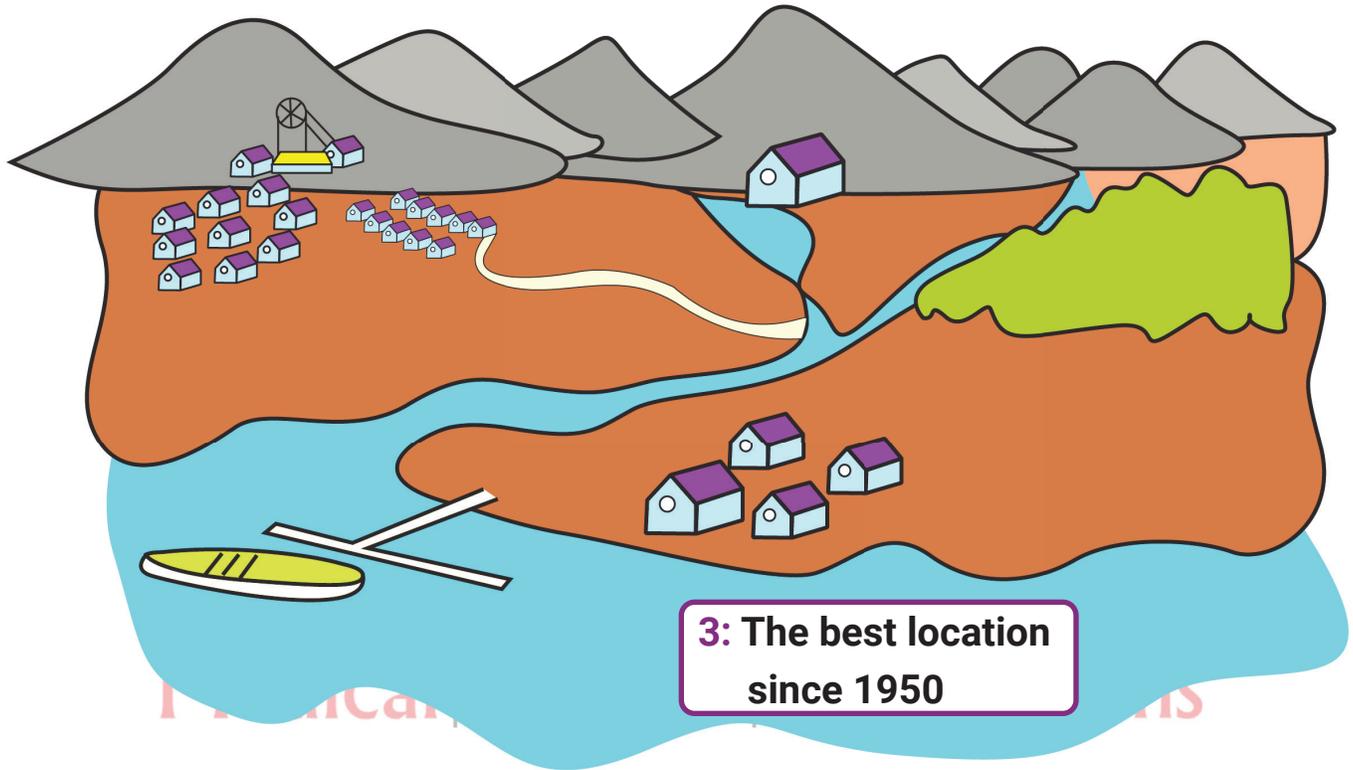
World's Major Iron Ore Producing Areas



Changing Location of the Iron and Steel Industry

2: The best location from 1800 to 1950

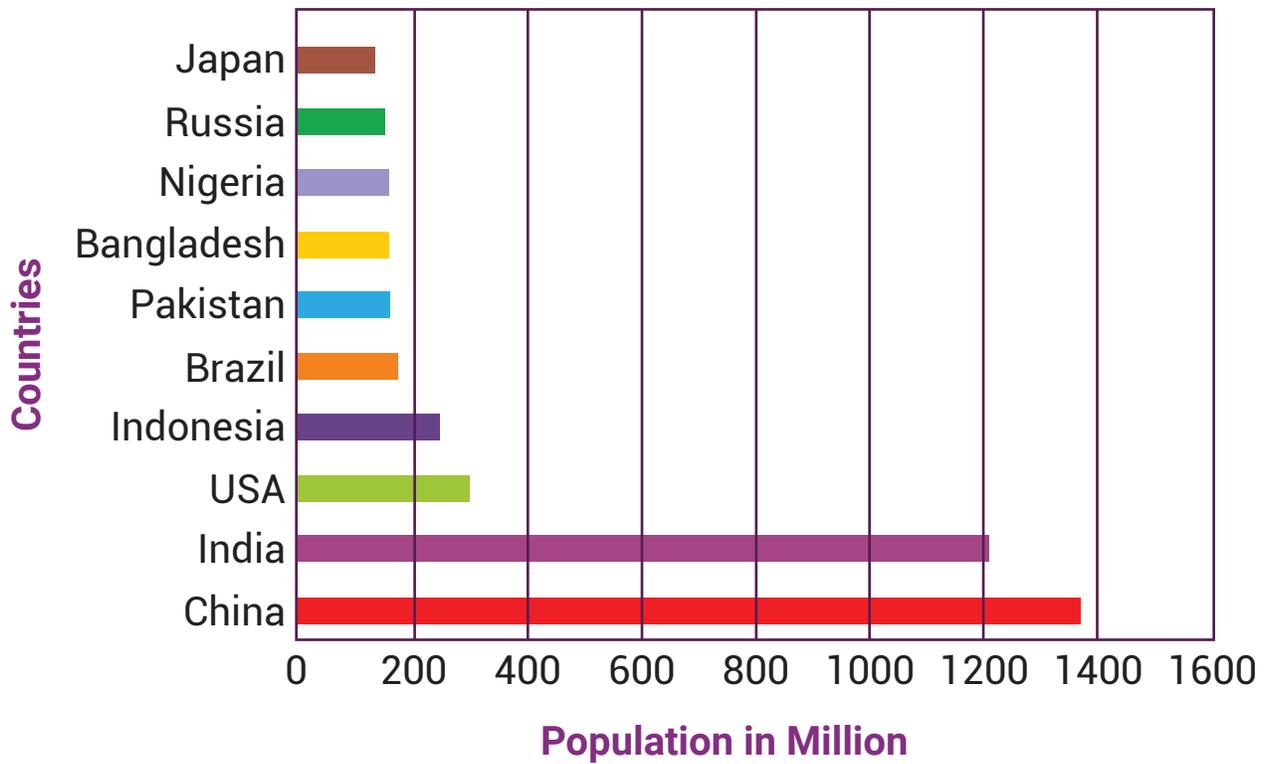
1: The best location before 1800



1. Before 1800	Located near raw materials, power supply and running water
2. From 1800 to 1950	Located near coal fields and close to canals and railways
3. Since 1950	Located on large areas of flat land near sea ports



World's Most Populous Countries



Source: Census of India, 2011 Provisional Population Totals, Paper 1 of 2011 India Series 1



Editing

Directions: There is one error in each line. Identify the incorrect word and supply its correction.

Incorrect **Correct**



Imagine you are vacationing on a foreign country where everything including the language, culture, climate, or food is new to you.

A

B



You visit the vendor, figure out what they are cooking or selling. Check on a ingredients used, cooking style, probably taste a bit and figure out if you actual like the food.

A

B

C



In the evening while he came home, she stood near the staircase and heard his loud voice on the hall.

A

B

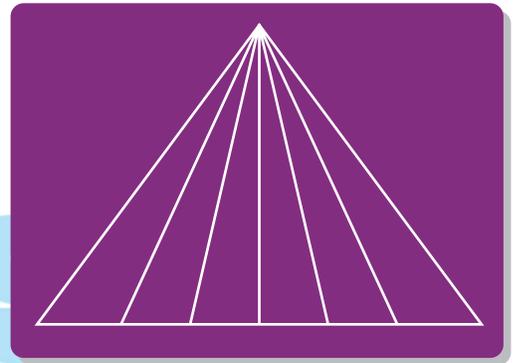


Diagrammatic Puzzles and Dice

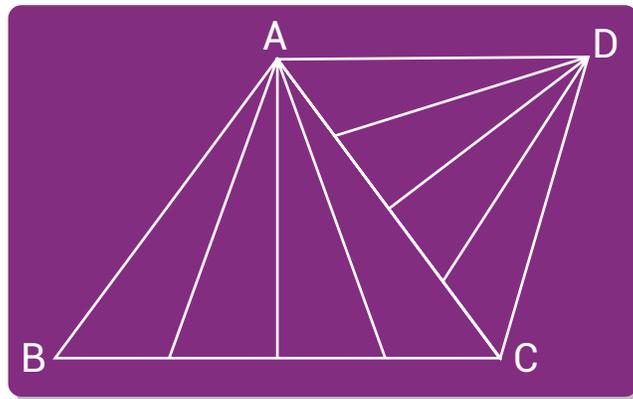
Counting of Figures

1. Find the number of triangles in the given figure.

- (A) 15
- (B) 22
- (C) 21
- (D) 25



2. Find the number of triangles in the given figure.

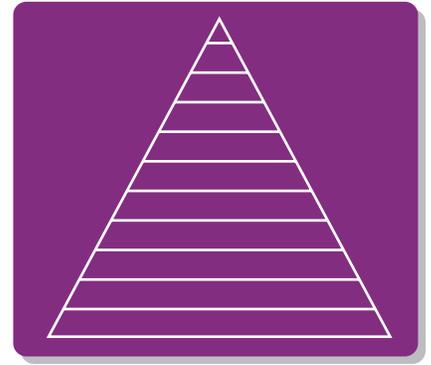


- (A) 22
- (B) 20
- (C) 18
- (D) 24

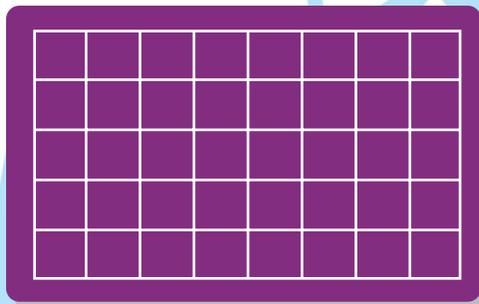


3. Find the total number of triangles in the given figure.

- (A) 9
- (B) 13
- (C) 12
- (D) 11



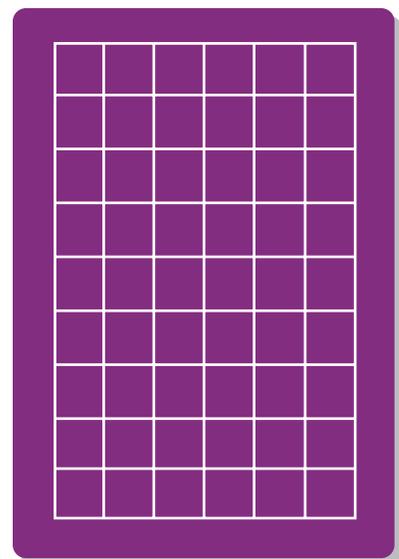
4. The total number of squares in the given figure is



- (A) 95
- (B) 100
- (C) 102
- (D) 101

5. The total number of squares in the given figure is

- (A) 154
- (B) 150
- (C) 145
- (D) 160

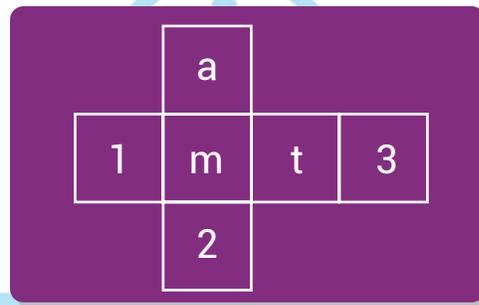


Dice

Open dice:

Alternate faces in the same vertical or horizontal row are opposite to each other.

6. In the given figure an open dice is shown the correct pair of opposite faces is

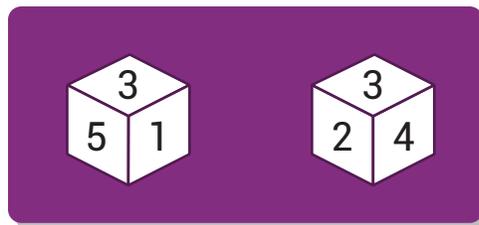


- (A) 1 - 3 (B) m - 3
(C) a - t (D) a - 1

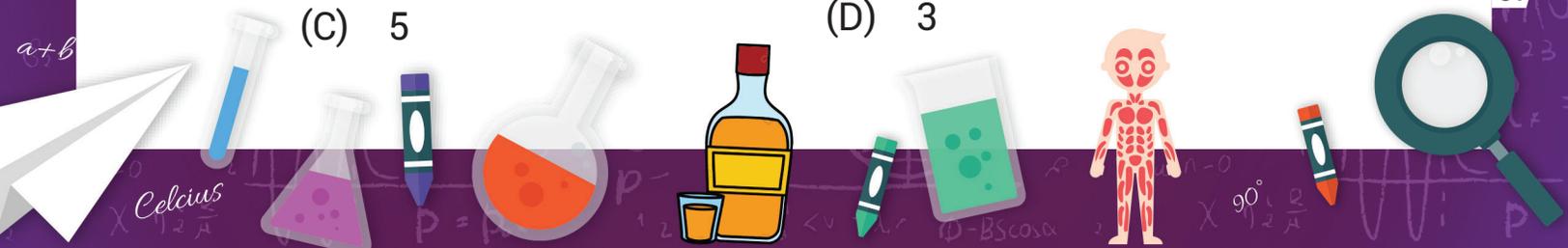
Medical | IIT-JEE | Foundations

If only one face is common in different position of the same dice, then do either clockwise or anti-clockwise rotation starting from the common face.

7. Face opposite to 4 is



- (A) 1 (B) 6
(C) 5 (D) 3



Answers

1. (C) Number of triangles inside the main triangle (n) = 6

$$\begin{aligned}\text{So, Total number of triangles} &= \frac{n(n+1)}{2} \\ &= \frac{6 \times (6+1)}{2} = 21\end{aligned}$$

2. (B) Number of triangles in $\Delta ABC = (n_1) = 4$

Number of triangles in $\Delta ACD = (n_2) = 4$

$$\begin{aligned}\text{Total number of triangles in } \Delta ABC &= \frac{n_1(n_1+1)}{2} \\ &= \frac{4 \times (4+1)}{2} = 10\end{aligned}$$

$$\begin{aligned}\text{Total number of triangles in } \Delta ACD &= \frac{n_2(n_2+1)}{2} \\ &= \frac{4 \times (4+1)}{2} = 10\end{aligned}$$

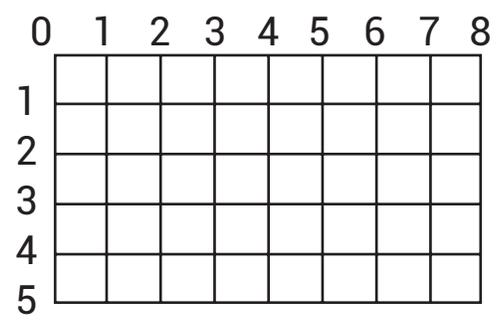
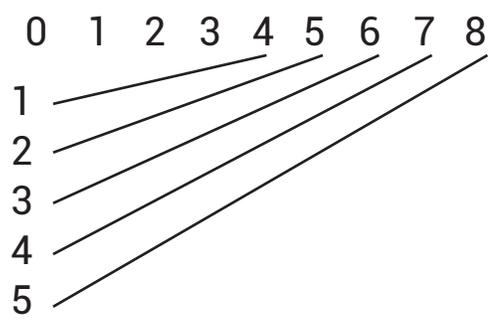
$$\begin{aligned}\text{Total number of triangles} &= 10 + 10 \\ &= 20\end{aligned}$$

3. (D) In such figure total possible

$$\begin{aligned}\text{Triangles} &= \text{Total number of horizontal lines} \\ &= 11\end{aligned}$$

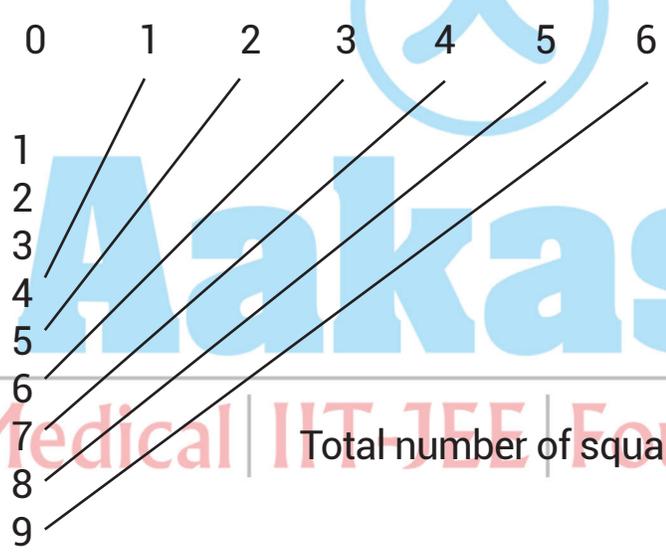


4. (B)



$$\begin{aligned} \text{Total square} &= (5 \times 8) + (4 \times 7) + (3 \times 6) + (2 \times 5) + (1 \times 4) \\ &= 100 \end{aligned}$$

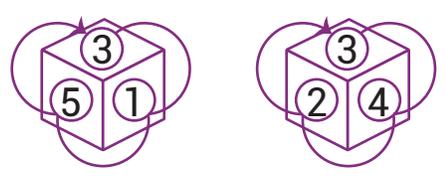
5. (A)



$$\begin{aligned} \text{Total number of squares} &= (6 \times 9) + (5 \times 8) + (4 \times 7) \\ &\quad + (3 \times 6) + (2 \times 5) + (1 \times 4) \\ &= 154 \end{aligned}$$

6. (B)

7. (A)



3 1 5
3 4 2

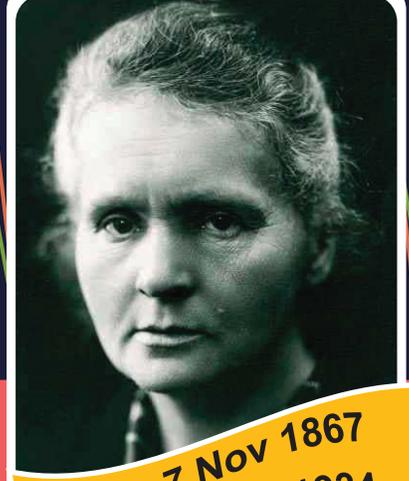
So, 1 is opposite to 4
5 is opposite to 2
3 is opposite to remaining 6.



THE FIRST WOMAN TO WIN A NOBEL PRIZE

Happy Birthday

Marie Curie



Born - 7 Nov 1867
Died - 4 July 1934

Marie Curie was born on November 7, 1867 in warsow, capital of Poland. She died in 1934 from Leukemia in Paris.

- She studied physical at the Sorbonne, in Paris.
- She was the discover of Polonium and Radium.

Marie Curie is famous for her work on radioactivity. She was the first woman to win a Nobel Prize, the only woman to win in two fields, and the only person to win in multiple sciences. She was also the first woman to become a professor at the University of Paris.

NSEs

National Standard Examinations
2023-24 Result



Aakash

1430 Students Scored Above MAS

344 Students Qualified
for **INO-2024**

(Group A & B)

34+30
NSEA*

156
NSEB*

72
NSEC*

23
NSEP*

29
NSEJS*

Our Toppers from Classroom Programs



Diptanshu Sharma
NSEB | NSEC | NSEP



Priyanshu Sarkar
NSEB | NSEC | NSEP



Mridul Garg
NSEB | NSEC | NSEP



Zaman Husain
NSEA | NSEC | NSEP



Shubhradeep Paul
NSEA | NSEC | NSEP



Samvit Shandilya
NSEA | NSEC | NSEP



Ujjwal Singh
NSEA | NSEC | NSEP



Krishna S S Vuppala
NSEA | NSEC | NSEP



Utkarsh Awadhiya
NSEA | NSEC



V Koushik Raghavan
NSEA | NSEC



Om Amrit Mohanty
NSEB | NSEC



Aditya Dagwar
NSEB | NSEC



Aadesh Nichat
NSEB | NSEC



Harsh Raj
NSEB | NSEC



Rishi S Shukla
NSEC | NSEP



Keshaw Ranjan
NSEA | NSEC



Piyush Dhakar
NSEJS



Sushant Agarwal
NSEJS

and many more...

* NSEA- National Standard Examination in Astronomy | NSEB- National Standard Examination in Biology | NSEC- National Standard Examination in Chemistry
NSEP- National Standard Examination in Physics | NESJS- National Standard Examination in Junior Science | INO- Indian National Olympiad

Our Top Performers

39

INO* Qualified Students for OCSCs/IMOTC APMO-2023



Lakshya Sharma
Qualified INBO



V Koushik Raghavan
Qualified INJSO



Anoop Singh
Qualified INPhO



Amritanshu Singh
Qualified INAO



Souptik Das
Qualified INChO



Harsh Raj
Qualified INBO



Mohit Shekher Shukla
Qualified INJSO



Aakash Gupta
Qualified INChO



Mridul Manya Anand
Qualified INBO

and many more...

Our Top Performers

108

Classroom Students

Qualified in RMO* 2023



Sahil Rai
4 Year Classroom



Zaman Hussain
2 Year Classroom



Samvit Shandilya
2 Year Classroom



Arnav Jindal
4 Year Classroom



Adithyan K
2 Year Classroom



Rishi S Shukla
2 Year Classroom



Deekshant Sharma
2 Year Classroom



Rujul Garg
2 Year Classroom



Aayush Agarwal
3 Year Classroom

and many more...

Our Top Performers

698

Classroom Students

Qualified in IOQM* 2023



Madhav Manu
Class XII



Zaman Hussain
Class XII



Gautham P A
Class XII



Samvit Shandilya
Class XI



Sahil Rai
Class XI



Arnav Jindal
Class XI



Rujul Garg
Class XI



Mohit S Shukla
Class X



Atiksh Jain
Class X

and many more...

*RMO - Regional Mathematical Olympiad | IOQM - Indian Olympiad Qualifier in Mathematics

INOs - Indian National Olympiads | OCSCs - Orientation cum Selection Camps

IMOTC - International Mathematical Olympiad Training Camp | APMO - Asian Pacific Mathematics Olympiad