Aakash
Medical | IIT-JEE | Foundations

KNOWLEDGE BYTES

DECEMBER 2024

CLASS 8

Aakash

Medical | IIT-JEE | Foundations

Edition: 2024-25

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

Crossword

ACROSS

2 Between two rational numbers, there lie(s) _____ number of rational numbers.

3 _____ is the additive identity of rational numbers.

5 a + (b + c) = (a + b) + c is called _____ property of addition.

7 Even numbers always have 2 as its _____.

8 2 is the only _____ prime number.

10 _____ number has only two factors; 1 and number itself.
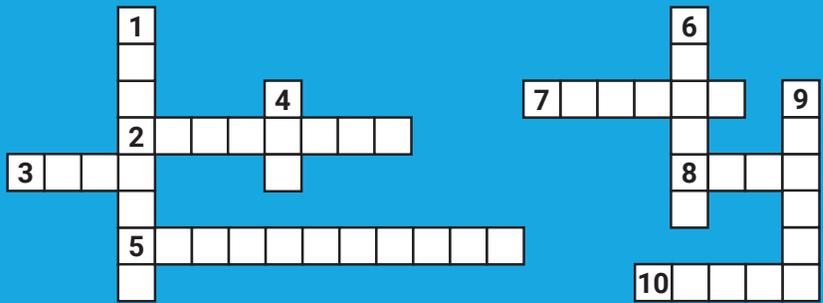
DOWN

1 The sum of two rational numbers is also a _____ number.

4 _____ is the multiplicative identity of rational numbers.

6 Rational numbers are _____ under subtraction.

9 Number of natural numbers between two natural numbers is _____.

The ancient Greek Mathematician Pythagoras believed that all numbers were rational, but one of his students Hippasus proved (using geometry) that you could not write the square root of 2 as fraction, and so it was irrational.

So, Hippasus is sometimes credited with the discovery of the existence of irrational numbers.

But followers of Pythagoras could not accept the existence of irrational numbers, and it is said that Hippasus was drowned at sea as a punishment from the gods.

Numbers Puzzle

Choose correct number in place of ?

1 ▶▶

	5			12			1	
3	43	4	9	?	3	7	244	6
	2			6			13	
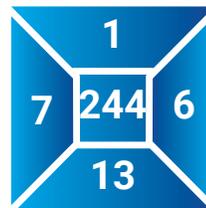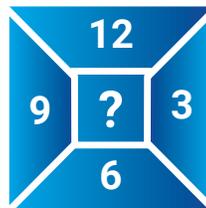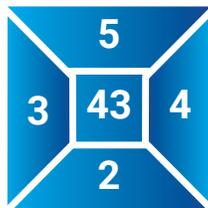
(a) 18 (b) 259

(c) 59 (d) 1642

2 ▶▶

2 + 6 = 8
3 + 9 = 20
11 + 1 = 32
7 + 5 = 44
9 + 13 = ?

(a) 60   (b) 62

(c) 66   (d) 68

Rational Numbers Maze

START

$3 - \dfrac{1}{2}(2-5)$	4.5	$\dfrac{1}{8} \times 40 - (-4)$

$\dfrac{9}{2}$

9

$\dfrac{1}{11} \times 22 - 7 + 3$ — 2 — $\left\{\left(10 \div \dfrac{1}{2}\right) + 3\right\} - 1$ — 22 — $\left\{\left(\dfrac{1}{2} - 1\right) - 5\right\} - \dfrac{1}{3}$

-10 $(2+2) \div 2 - 2$

0

-2 7 $\dfrac{-35}{6}$

$3 - \dfrac{1}{5}(15-5)$ — 28 — $15 - 3(-7)$ — $\dfrac{11}{2}$ — $\left(4 \div \dfrac{1}{2}\right) - 2 - \dfrac{1}{2}$

1 36 0

$\dfrac{1}{2} - \dfrac{5}{2}\left(1 - \dfrac{1}{2}\right)$ — $-\dfrac{1}{4}$ — $\dfrac{1}{2} - 2 - \left(4 \div \dfrac{1}{2}\right)$ — $-\dfrac{19}{2}$ — **FINISH**

Quiz Time

1. Ram and Shyam each received an equal allowance. The table shows the fraction of their allowance each deposits into his savings account and fraction each spends at the mall. If allowance of each is ₹ 1260, then find the amount left with each of them.

Where money goes	Fraction of allowance	
	Ram	Shyam
Savings Account	$\frac{1}{2}$	$\frac{1}{3}$
Spent at mall	$\frac{1}{4}$	$\frac{1}{5}$
Left over	?	?

2. $\frac{2}{5}$ of total number of students of a school come by car while $\frac{1}{4}$ of students come by bus to school. All the other students walk to school of which $\frac{1}{3}$ walk on their own and the rest are escorted by their parents. If 210 students come to school walking on their own, how many students study in that school?

Answer (Crossword)

			1 R													6 C				9

1: R A T I O N A L

4: O N E

2: I N F I N I T E

3: Z E R O

5: A S S O C I A T I V E

6: C L O S E D

7: F A C T O R

8: E V E N

9: F I N I T E

10: P R I M E
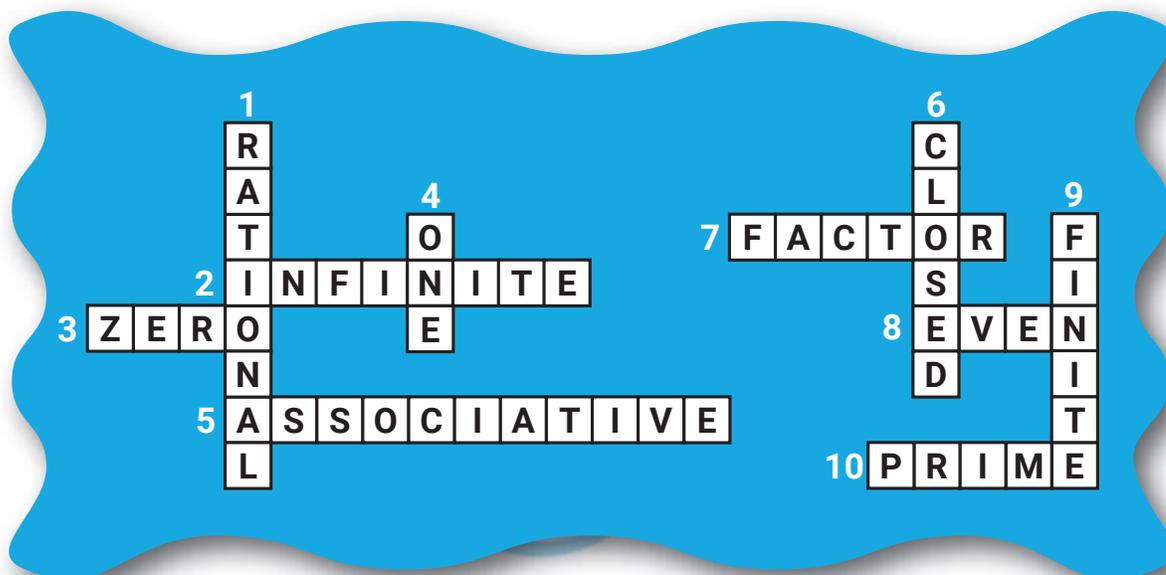
Answer (Numbers Puzzle)

1 ≫ **(b)** **259**

$$12^2 + 3^2 + 6^2 + 9^2 - 11 = \mathbf{259}$$

2 ≫ **(c)** **66**

$$2 + 6 = 8$$
$$8 + 3 + 9 = 20$$
$$20 + 11 + 1 = 32$$
$$32 + 7 + 5 = 44$$
$$44 + 9 + 13 = \mathbf{66}$$

Answer (Rational Numbers Maze)

START

$3 - \dfrac{1}{2}(2-5)$	**4.5**	$\dfrac{1}{8} \times 40 - (-4)$	-10	$2 + 2 \div 2 - 2$

$\dfrac{9}{2}$ — **9** — 0

$\dfrac{1}{11} \times 22 - 7 + 3$ — **2** — $\left\{\left(10 \div \dfrac{1}{2}\right) + 3\right\} - 1$ — **22** — $\left\{\left(\dfrac{1}{2} - 1\right) - 5\right\} - \dfrac{1}{3}$

-2 — **7** — $\dfrac{-35}{6}$

$3 - \dfrac{1}{5}(15 - 5)$ — **28** — $15 - 3(-7)$ — $\dfrac{11}{2}$ — $\left(4 \div \dfrac{1}{2}\right) - 2 - \dfrac{1}{2}$

1 — **36** — 0

$\dfrac{1}{2} - \dfrac{5}{2}\left(1 - \dfrac{1}{2}\right)$ — $-\dfrac{1}{4}$ — $\dfrac{1}{2} - 2 - \left(4 \div \dfrac{1}{2}\right)$ — $-\dfrac{19}{2}$ — **FINISH**

1 ➤➤ **Solution**

Ram has money = ₹ 1260

Money deposited in savings account

$$= \frac{1260}{2} = 630$$

Money spent at mall

$$= \frac{1}{4} \times 1260 = 315$$

Left over amount

$= 1260 - 630 - 315$

$= ₹ 315$

Shyam has money = ₹ 1260

Money deposited in savings account

$$= \frac{1}{3} \times 1260 = 420$$

Money spent at mall

$$= \frac{1}{5} \times 1260 = 252$$

Left over amount

$= 1260 - 420 - 252$

$= ₹ 588$

2 ➤➤ **Solution**

Let total number of students = x

Students come by car $= \frac{2}{5}x$

Students come by bus $= \frac{x}{4}$

Rest students $= x - \frac{2}{5}x - \frac{x}{4}$

$$= x - \left(\frac{8x + 5x}{20} \right)$$

$$= x - \frac{13x}{20}$$

$$= \frac{7x}{20}$$

$$\therefore \quad \frac{7x}{20} \times \frac{1}{3} = 210$$

$$x = \frac{60 \times 210}{7} = 1800$$

Force and Pressure

Crossword

ACROSS

1. SI unit of pressure is _____.

3. _____ arises due to the interaction between two objects.

5. The quantity of matter contained in a body is called _____.

7. _____ force is a non-contact force.

DOWN

2. Balanced forces may change the _____ of an object.

4. The pressure exerted by air around us is known as _____ pressure.

6. Spring balance is a device used for measuring _____ of an object.

8. Manometer is used to measure the pressure of _____.
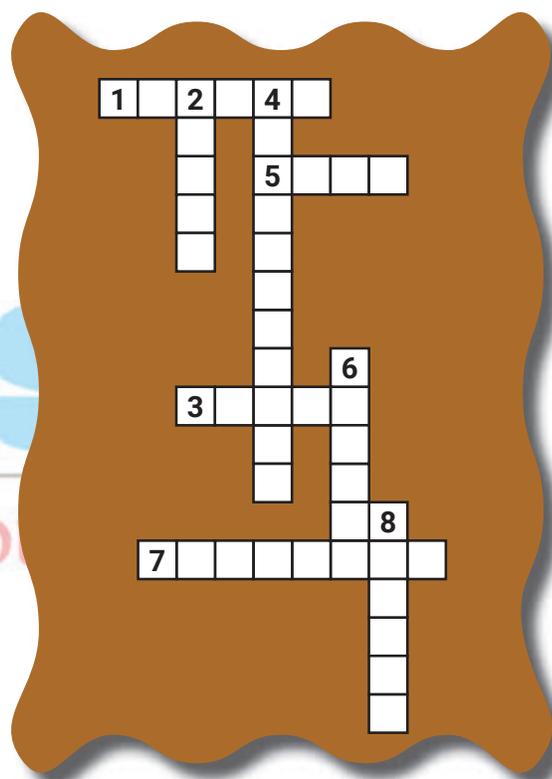
Sir Isaac Newton

Sir Isaac Newton was an English mathematician, physicist, astronomer, theologian and author who is widely recognized as one of the most influential scientists of all time and as a key figure in the scientific revolution.
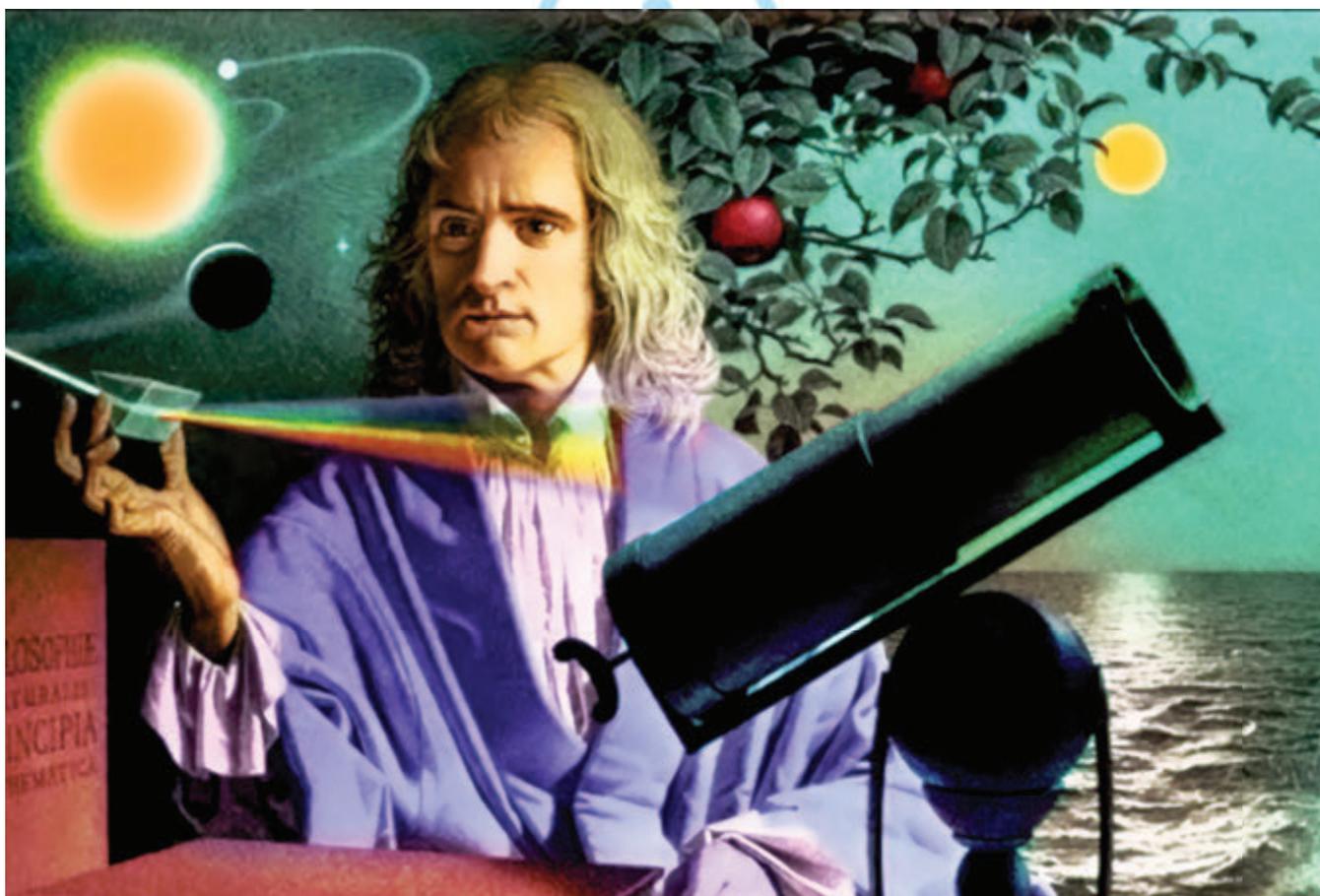
Besides his work in studying gravity and the motion of planets, Newton developed the three laws of motion which form the basic principles of modern physics. His work in optics included the study of white light and the discovery of the colour spectrum. It was his experiments with light that first made him famous.

Interesting Facts

1 The air that we breath in, and live in, is primarily made up of nitrogen (78.09%) and oxygen (20.95%). The other 1%, is made up of carbon dioxide, argon, and other trace gases. There is always water vapour present in the air, but this varies by up to 2%.

2 For every 10 meters travelled deeper into the ocean, there is an additional 6.47 kg of pressure on every square inch of surface of an object.

3 If you didn't have special equipment when you went 2,000 meters under the ocean, there would be more than a ton of pressure being put on every square inch of your body. In other words, you would be squashed flat.

4 Evangelista Torricelli invented the first barometer in 1644.

5 Zones with high pressure are called anticyclones, while zones with low pressure are called cyclones or depressions.

6 Generally, high pressure is associated with fair weather and low pressure is associated with unsettled and stormy weather.

7 Weather forecasters measure pressure in millibars (mb).

Spot the Mistake!
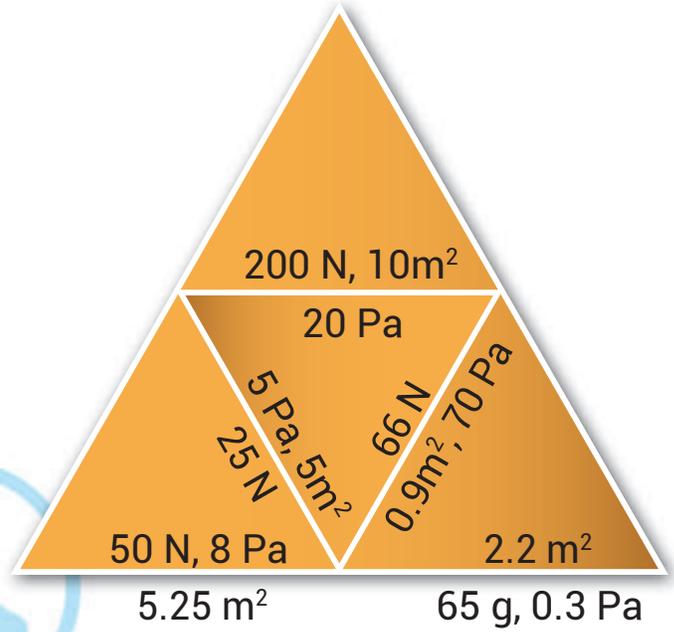
Can you find the mistakes? Correct them when you do!

200 N, 10m^2

20 Pa

5 Pa, 5m^2

25 N

66 N

0.9m^2, 70 Pa

50 N, 8 Pa

2.2 m^2

5.25 m^2

65 g, 0.3 Pa

Differences

What's the difference between absolute pressure and gauge pressure?
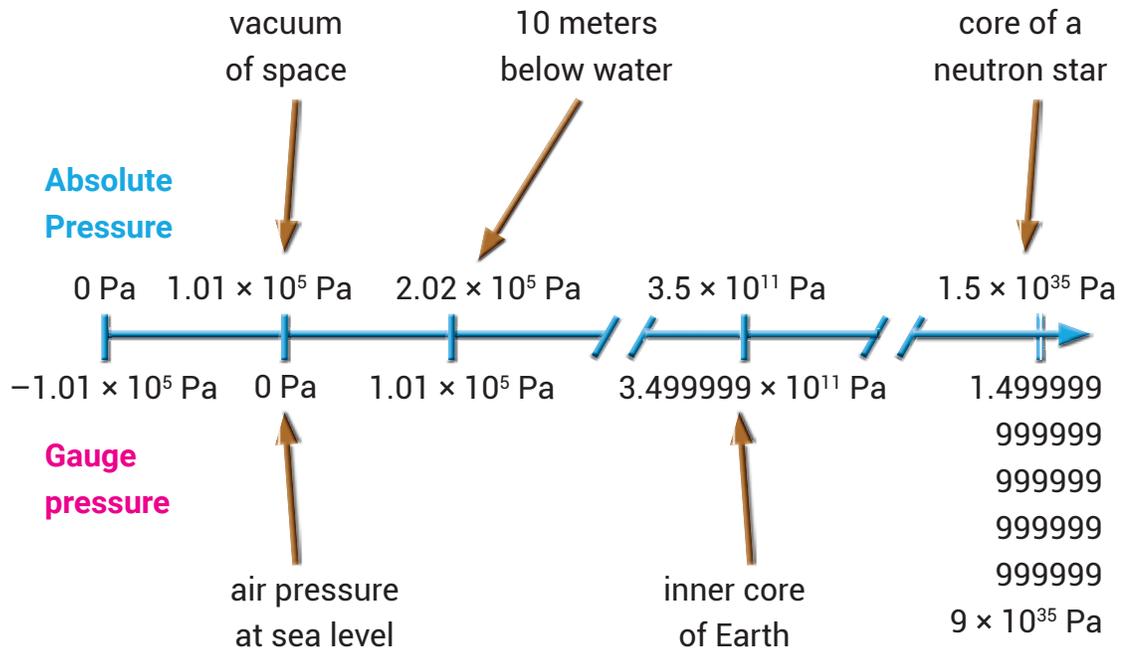
vacuum of space

10 meters below water

core of a neutron star

Absolute Pressure

0 Pa   1.01 × 10^5 Pa   2.02 × 10^5 Pa   3.5 × 10^{11} Pa   1.5 × 10^{35} Pa

−1.01 × 10^5 Pa   0 Pa   1.01 × 10^5 Pa   3.499999 × 10^{11} Pa   1.499999 999999 999999 999999 999999 9 × 10^{35} Pa

Gauge pressure

air pressure at sea level

inner core of Earth

Answer (Crossword)

```
        2       4
    1 P A S C A L
        H       T
        A     5 M A S S
        P       O
        E       S
                P
                H       6
                E       W
    3 F O R C E         E
                R       I
                I       G       8
    7 M A G N E T       H       L I Q U I D
                        T       I
                                Q
                                U
                                I
                                D
```

Answer

Spot the Mistake!

200 N, 10m²

20 Pa

5 Pa, 5m²

25 N

66 N

0.9m², 70 Pa

50 N, 8 Pa

5.25 m²

2.2m²

65 g, 0.3 Pa
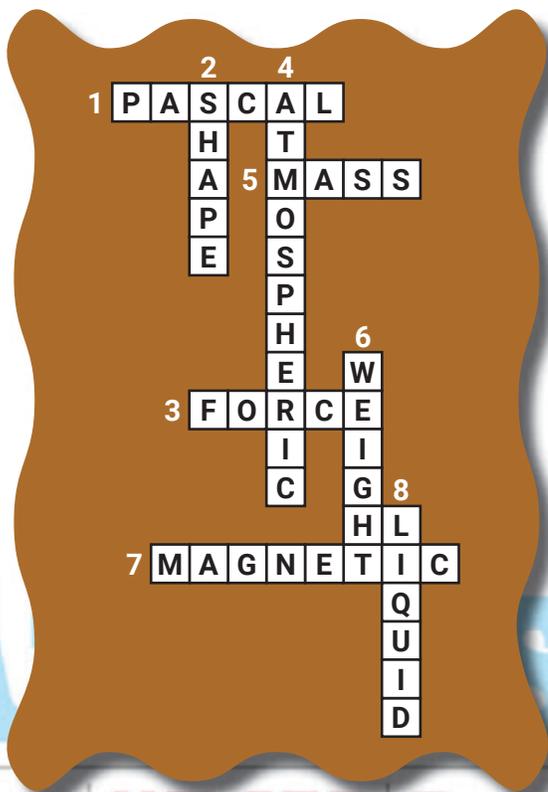
Correct answer
73.33 Pa
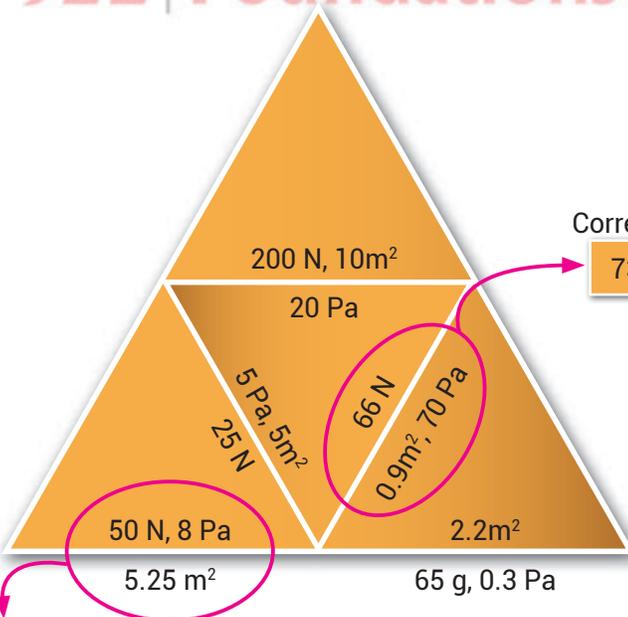
Correct answer
9.52 Pa

Synthetic Fibres and Plastics

Crossword

ACROSS

7 Polymer found in human body. [7]

8 Polymer of ethene. [9]

9 Plastic used for making handles of utensils and mostly electrical fittings. [8]

10 Fibre which is used to make bullet proof vests. [6]

DOWN

1 All the synthetic fibres are prepared by a number of processes using raw materials of petroleum origin, called [14]

2 Non-stick coating on utensils is made up of [6]

3 Chemicals which have fruity smell. [5]

4 Most commonly used polystyrene. [9]

5 First fully synthetic fibre. [5]

6 Flame resistant plastic. [8]
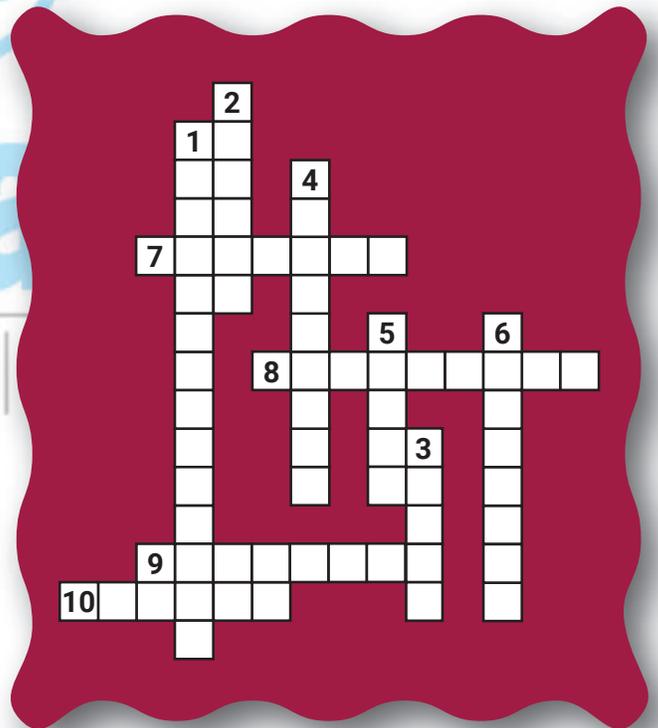
Interesting Facts

1 Flax is the oldest natural fabric that was first used in 5000 BC. It is used to make linen that is used in drapery and upholstery. Flax is one of the strongest natural fibres ever discovered.
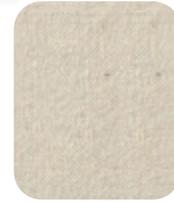
2 Rayon (commonly known as artificial silk) was the first artificial fibre and was first created in 1910.

3 China is the largest producer and exporter of silk.

4 Cotton is known as the king of natural fibres, selling more than any other fabric worldwide.

5 True cashmere only comes from the Kashmiri goat, which is found in the valleys of Himalayas. Their fine undercoat hair is used to make luxurious and desirable cashmere yarn and it costs very high due to its low availability.

Tips to use less plastic

1. Use cardboard boxes instead of plastic bottles. Most products like laundry detergent, pasta etc. come in cardboard packet which is more easily recycled than plastic.

Choose paper over plastic whenever possible

2. Buy food products like pulses, grains and rice from bulk bins and fill a reusable bag or container. By this you can save money and also unnecessary plastic packaging could be avoided.

3. Reuse plastic containers that you get from restaurants for storing leftovers.

4. Use a reusable bottle or mug for your beverages like tea, coffee, shakes, etc., even when ordering from a shop or ask them to give it in a glass bottle.

5. Always have fresh home made juice or eat fruits instead of buying packed juice in plastic bottles. It's healthier for you and better for the environment.

15

PLASTIC IS SO MUCH WORSE THAN YOU THINK

Plastic causes soil pollution

Plastic releases harmful chemicals into the surrounding soil. Chemicals from the soil will contaminate the crops grown in it, affect the food we eat and the health of ecosystems.

Marine species ingest or get entangled by plastic , which causes severe injuries and even deaths.

Plastic pollution affects sea life

Urban flooding caused By Plastic

Plastic materials, particularly carry bags and plastic bottles, clog the drains in many cities increasing flood damage.

Answer (Crossword)

```
                  2
              1   T
              P   E         4
              E   F         T
              T   L         H
              R   O         E
          7   P  R  O  T  E  I  N
              O   N         R     5        6
              C            M      N        M
              H    8  P  O  L  Y  T  H  E  N  E
              E            C      L   3     L
              M            O      O   E     A
              I            L      N   S     M
              C                   S   T     I
              A        9  B  A  K  E  L  I  T  E    N
          10  K  E  V  L  A  R            E         E
              S                          R
```

Crossword

		1			2		
		I			S		

3 H _ _ _ _ _ _ _

4 G _ _ _ _

5 C

6 W _ _ _ _ _ _
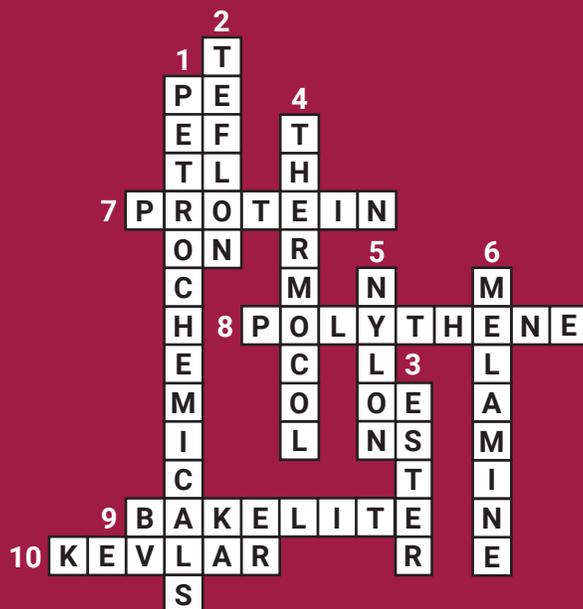
ACROSS

3 A machine used for cutting the matured crop.

4 A rabi crop that is also one of the pulses.

6 A process of separating the grain from chaff.

DOWN

1 The supply of water to the crops at the different intervals of time.

2 The crop grains kept for a long time under proper conditions.

5 The plants of the same kind grown on a large scale.

18

Some latest inventions on crop monitoring

Scouting App

This app employs digital field maps. While using this app, the farmer is able to assign multiple tasks to scouts in few clicks. Steps are - Add a field, drop a pin, set a task. Once the task is assigned, a scout moves directly to the selected location and checks problem areas at the site, checks pest activity, performs weed management activities etc., immediately making records in the app. This allows inspection of the problem areas only when needed.

Use of the Normalized Difference Vegetation Index (NDVI) for tracking crop health

Use of the Normalized Difference Vegetation Index (NDVI) for tracking crop health: This index examines the amount of chlorophyll in plants. This makes it possible to obtain information about their condition- When there is higher NDVI value, you have healthier vegetation, because the more chlorophyll available to the plant, the healthier it is.

Interesting Facts

The Three Sisters is a type of mixed cropping system, where beans , maize and squash are grown together in the same land. The seeds for all three are planted together: the maize acting as support for the beans, and the other two together acting as shade and humidity control for the squash, wherein the squash acting as weed suppressant.

Chinampas - a type of 'raised field agriculture', used in wetlands, constructed of stacked alternating layers of decaying vegetation and mud. These fields are built with a series of long alternating strips of canals and raised fields.

If these are properly maintained, by clearing organic-rich canal muck

and placing them onto the raised fields, chinampas are quite productive.

One of the major benefits of a chinampa system is that the water in the canals provides a consistent passive source of irrigation.
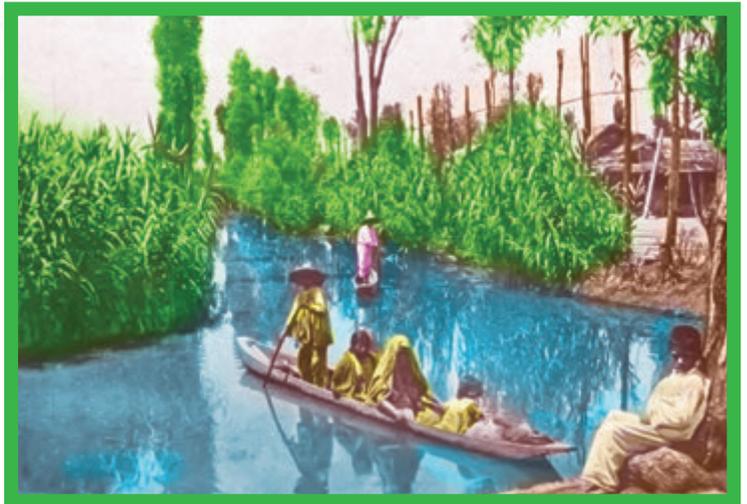
Match the following

Match the following according to the description given.

Let's know how agriculturally modern you are-

1 **Wheel-cart :-** It is a small hand-propelled carrier, with only one wheel, intended to be pushed and guided by a single person using two handles from the back.

2 **Baler :-** Its main function is to make bundles of cereal straw and other herbs in the field.

3 **Motocultor :-** This is a type of tiller which is of single axis. It holds through handles that produces a medium power, for carrying out agricultural and ornamental works.

4 **Tractor :-** Its power and size allow it to work in rough terrain, dragging or towing agricultural implements. It is the most used and versatile machine in agriculture.

5 **Combine harvester :-** That can rotate on an axis, ahead of the machine and are able to reduce the use of labor and production costs. It has the ability to work and precision to harvest.

6 **Agricultural drones :-** It's an unmanned aerial vehicle that provides a bird's-eye view of your farm which allows us to find out irrigation, pest, fungal problems and tracking cattle.

a

b

c

d

e

f

21
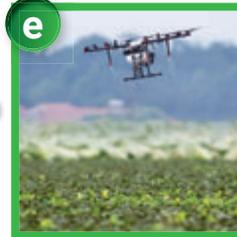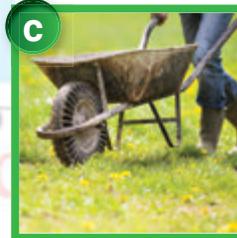
Choose the Revolution

Choose the correct revolution to which the following organisms/substances can be associated with.

Blue revolution

White revolution

Silver revolution

Yellow revolution

Answer (Crossword)

```
        1              2
        I              S
3  H A  R  V  E  S  T  E  R
        R              O
        I              R
        G              A
4  G R  A  M           G
        T        5     E
        I        C
        O        R
6  W I  N  N  O  W  O  I  N  G
                 P
```
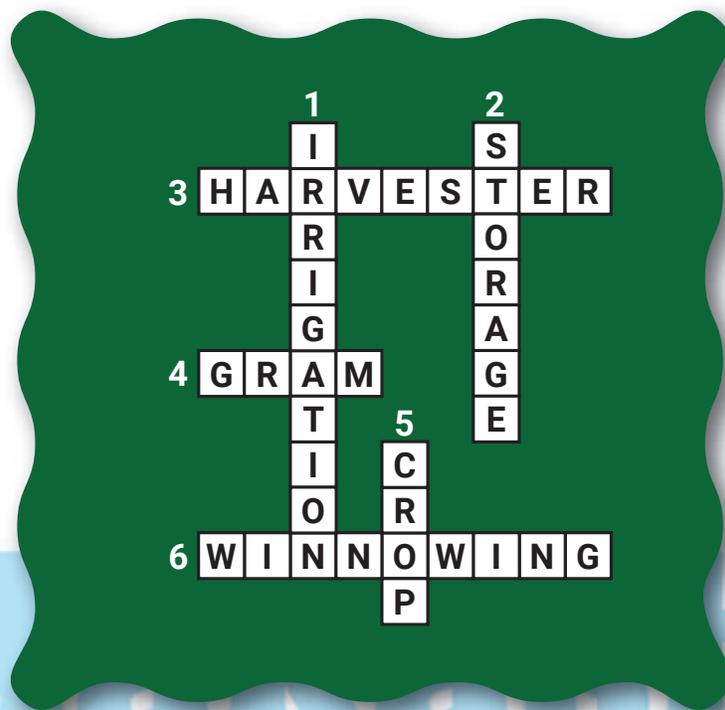
Answer (Match the following)

1 → c
2 → f
3 → b
4 → a
5 → d
6 → e

Answer (Choose the Revolution)

Blue revolution

White revolution

Silver revolution

Yellow revolution

From Trade to Territory

India, the Golden Bird, has always been a land of invasions, of which the prominent ones were Indo- Greeks, Mughals and Europeans. Among the Europeans, the most powerful was the Britishers, who entered as traders and gradually became the political masters.

Advent of British in India

The discovery of a new sea route to India via Cape of good hope in by Vasco da Gama opened new Europeans' opportunities. Thus, Portuguese, Dutch, Spanish, English, Started establishing their trading companies in India.
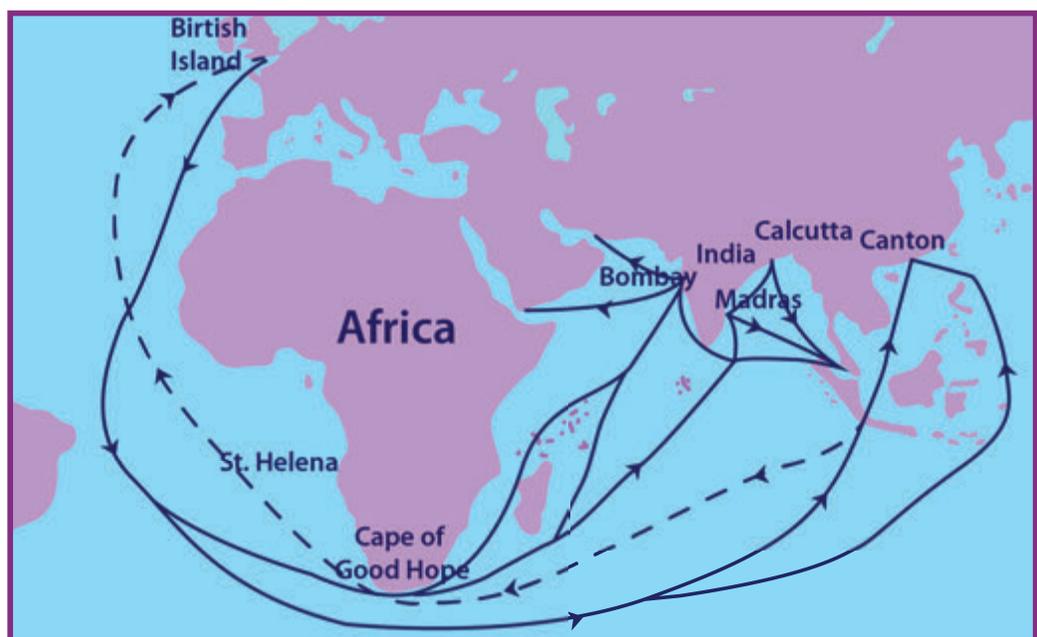
- As Mughal courts were under the influence of the Portuguese, Britishers had to weaken their roots to get a monopoly over trade in India.
- This led to the Battle of Swally near Surat in 1612, where two English naval ships under Captain Best and Captain Hawkins defeated a Portuguese naval squadron.
- Captain Best succeeded in getting a royal Farman by Jahangir, allowing the English to build a factory in Surat, Cambay, Ahmedabad and Goa in 1613.

- Later in 1615, taking advantage of the weakness of Indian naval forces, Sir Thomas Roe pressurised Mughal emperor Jahangir to give Imperial Farman of trade.
- Eventually, the Portuguese lost all their possessions in India except Goa, Daman and Diu.
- The Company created trading posts in Surat (where a factory was built in 1612), Madras (1639), Bombay (1668), and Calcutta (1690).
- The major factories became the walled forts of Fort William in Bengal, Fort St George in Madras and the Bombay Castle.
- Britishers completely waived customs duties for trade in cotton, silk and tea.

- After getting the political and financial power, the Britishers started encroaching on Hyderabad, Mysore etc. and forced them to sign the Subsidary Alliance.

- After making the southern kingdom, weak Britishers took hold of Bengal through the Battle of Plassey in 1757. This battle gave the political control of north India in the hand of the British Empire.

- Further, the Battle of Buxar, 1764, made the English virtually the masters of Bengal as it also proved their military superiority and unchallenged power.

- Later, Warren Hastings became the first Governors-General of Bengal.

- Thus, it transformed the East India Company from a trading company to colonial territorial power, and India entirely became the colony of Britain.

Quiz Time

1. Who was the last powerful Mughal ruler?

(a) Aurangzeb

(b) Farrukhsiyar

(c) Jahangir

(d) Shah Alam

2. The system of Subsidiary Alliance was introduced by:

(a) Lord Dalhousie

(b) Warren Hasting

(c) Lord Wellesley

(d) Lord Ripon

3. Vasco da Gama came to India in:

(a) 1498

(b) 1598

(c) 1450

(d) 1612

4. Battle of Swally was fought between:

(a) Mughals and Portuguese

(b) French and British

(c) British and Portuguese

(d) French and Dutch

5. Which of the following events of history gave the political control of India in the hand of East India Company?

(a) Battle of Plassey

(b) Battle of Swally

(c) Battle of Buxar

(d) Battle of Panipat

28

Answer Quiz Time

1 ›› **(a)** Aurangzeb

2 ›› **(c)** Lord Wellesley

3 ›› **(a)** 1498

4 ›› **(c)** British and Portuguese

5 ›› **(a)** Battle of Plassey

Antonyms

From the given options, choose a word that is FARTHEST in meaning to the highlighted word in the given sentences.

1 Steps are to be taken to **abate** population.

(a) Decrease   (b) Increase

(c) Succeed   (d) Deluge

2 She has been asked to **abridge** the novel for the radio.

(a) Truncate   (b) Sketch

(c) Expand   (d) Advocate

3 Being a **conscientious** worker, he never shirks his duty.

(a) Honest   (b) Casual

(c) Mooring   (d) Careless

4 He is popular with his fans on account of his **complaisant** nature.

(a) Unwilling   (b) Pleasing

(c) Disobliging   (d) Unhelpful

5 Four other judges **concurred** with his verdict.

(a) Acceded

(b) Disapproved

(c) Coincided

(d) Supported

6 There wasn't enough coal during the war, so we had to use it **sparingly**.

(a) Frugally

(b) Copiously

(c) Fervour

(d) Fairly

7 Celebrities believe in wearing **clannish** dresses.

(a) Welcoming

(b) Exclusive

(c) Common

(d) Proprietary

8 Ahmed **gingerly** moved his injured foot.

(a) Recklessly

(b) Carefully

(c) Quietly

(d) Abruptly

9 The passengers escaped **unscathed**.

(a) Infantile

(b) Intact

(c) Injured

(d) Comity

10 The very **brevity** of her explanation was astounding.

(a) Extensiveness

(b) Concise

(c) Curtness

(d) Clemency

Answer (Antonyms)

1 **Steps are to be taken to abate population.**

(a) Decrease   (b) **Increase** ✓

(c) Succeed   (d) Deluge

2 **She has been asked to abridge the novel for the radio.**

(a) Truncate   (b) Sketch

(c) **Expand** ✓   (d) Advocate

3 **Being a conscientious worker, he never shirks his duty.**

(a) Honest   (b) Casual

(c) Mooring   (d) **Careless** ✓

4 **He is popular with his fans on account of his complaisant nature.**

(a) **Unwilling** ✓   (b) Pleasing

(c) Disobliging   (d) Unhelpful

5 **Four other judges concurred with his verdict.**

(a) Acceded   (b) **Disapproved** ✓

(c) Coincided   (d) Supported

6 There wasn't enough coal during the war, so we had to use it **sparingly**.

- (a) Frugally
- (b) **Copiously** ✓
- (c) Fervour
- (d) Fairly

7 Celebrities believe in wearing **clannish** dresses.

- (a) Welcoming
- (b) Exclusive
- (c) **Common** ✓
- (d) Proprietary

8 Ahmed **gingerly** moved his injured foot.

- (a) **Recklessly** ✓
- (b) Carefully
- (c) Quietly
- (d) Abruptly

9 The passengers escaped **unscathed**.

- (a) Infantile
- (b) Intact
- (c) **Injured** ✓
- (d) Comity

10 The very **brevity** of her explanation was astounding.

- (a) **Extensiveness** ✓
- (b) Concise
- (c) Curtness
- (d) Clemency

Crossword

ACROSS

2 The interest is charged on the interest of certain amount of money, then such an interest is called _____ interest.

4 Sales tax is always calculated on _____

5 When selling price is greater than the cost price, then we will have a _____

6 Money is collected by government from the citizens in the form of _____

8 Profit and loss are always calculated on the _____ price.

DOWN

1 Shopkeeper fixes _____ over the cost price which is greater than the cost price and then, he allows us discount at that price.

3 Reduction in the cost price of an article by the shopkeeper is called a _____

7 If two or more discounts are allowed one after the other, then such discount are known as _____ discounts.

9 (Loss percentage × CP) ÷ 100 = _____
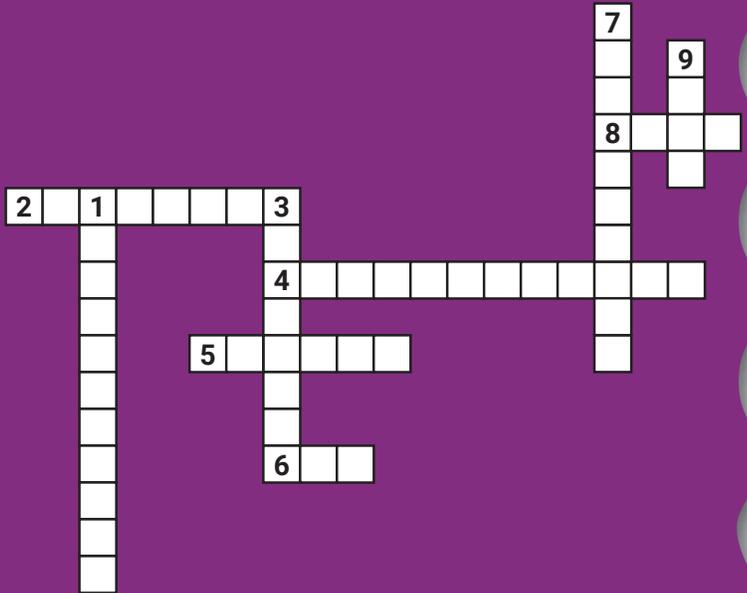
Loss Percentage

Important Point

If there are two articles having the same selling price and one is sold at x% profit and the other is sold at x% loss, effectively, a loss will always be made and the loss percent is $\left(\dfrac{x}{10}\right)^2$ %

Note

When there are two articles having the same cost price and if one articles is sold at x% profit and the other is sold at x% loss, then effectively neither profit nor loss is made in whole transaction.

Riddle

A bought an article at ₹ 1000 and sold it to B for ₹ 1250. After a couple of months. A bought it back from B at ₹ 1500 and sold it to C for ₹ 1750. Again after a couple of months, A bought it back from C at ₹ 1500 and sold it to D for ₹ 2000.

Can you calculate the total profit or loss incurred to A during this process?

Short-Cut Trick

For Successive profits or losses

If there are two successive profits or losses at a% and b% respectively, then a resultant profit or loss is given by $\left(a + b + \dfrac{ab}{100} \right)\%$, where a or b is negative, if it indicates a loss.

If result is positive, then there is a profit and if result is negative, then there is a loss.

Note

If the price of an article is diminished by 15% and its demand increases by 20%, then find the resultant profit/loss.

Answer (Crossword)

```
                                              7
                                              S        9
                                              U        L
                                              C        O
                                          8   C  O  S  T
                                              E        S
                1              3              S        S
             2  C  O  M  P  O  U  N  D        I
                A              I           4  S  E  L  L  I  N  G  P  R  I  C  E
                R              S              V
                K              C              E
                E           5  P  R  O  F  I  T
                D              O
                P              U
                R           6  T  A  X
                I              N
                C
                E
```

Answer (Riddle)

Profit of ₹ 1000

Answer Quiz Time

Solution : -   a = −15% (as price diminishes)

b = 20%

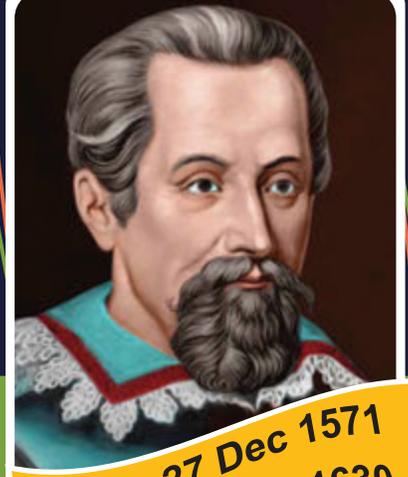$$\therefore \left[-15 + 20 + \frac{(-15)\,(20)}{100} \right]\%$$

= 2%, since it is positive so it is a profit percent.

Happy Birthday

Johannes Kepler

Born - 27 Dec 1571
Died - 15 Nov 1630

December 27 is a day to celebrate the life of astronomer Johannes Kepler, who was born on this date in 1571, and is best known for his three laws of planetary motion. But also, coming up in 2009. The International Year of Astronomy (IYA) will celebrate the work of Kepler as well. Not only did Galileo begin his observations with a telescope almost 400 years ago in 1609, but also in that year Kepler published his book New Astronomy or Astronomia Nova. This was first published work that documented the scientific method.

OUR RESULTS 2024

NEET (UG) 2024

AIR 1

State Topper Delhi	State Topper Uttar Pradesh	State Topper West Bengal	State Topper Uttar Pradesh	State Topper Maharashtra	State Topper Rajasthan
720/720	720/720	720/720	720/720	720/720	720/720
Mridul M Anand 3 Year Classroom	**Ayush Naugraiya** 4 Year Classroom	**Arghyadeep Dutta** 2 Year Classroom	**Aryan Yadav** 1 Year Classroom	**Palansha Agarwal** 2 Year Classroom	**Iram Quazi** 1 Year Classroom

JEE (Advanced) 2024

AIR 25	AIR 67	AIR 78	AIR 93	AIR 95
Rishi Shekher Shukla 2 Year Classroom	**Krishna Sai Shishir** 4 Year Classroom	**Abhishek Jain** 4 Year Classroom	**Hardik Aggarwal** 2 Year Classroom	**Ujjwal Singh** 4 Year Classroom

1430 Students Scored Above MAS

344 Classroom Students **Qualified in NSEs* 2023-24**

- (Group A & B) **34+30** NSEA*
- **156** NSEB*
- **72** NSEC*
- **23** NSEP*
- **29** NSEJS*

Aakashians Qualified for INO-2024

Diptanshu Sharma NSEB	NSEC	NSEP	Priyanshu Sarkar NSEB	NSEC	NSEP	Mridul Garg NSEB	NSEC	NSEP	Zaman Hussain NSEA	NSEC	NSEP	Shubhradeep Paul NSEA	NSEC	NSEP	Samvit Shandilya NSEA	NSEC	NSEP

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 | NSEJS-National Standard Examination in Junior Science | INO-Indian National Olympiad

Aakashians Qualified for OCSC/IMOTC-2024

32 Classroom Students **Qualified in INOs 2024**

Aneesh Shastri Qualified INAO	Sanvi Jain Qualified INChO	Mridul M Anand Qualified INBO	Zaman Hussain Qualified INMO	Sushant Agarwal Qualified INJSO	Archit Kumar Qualified INAO Jr

and many more...

OCSCs - Orientation cum Selection Camps | **IMOTC** - International Mathematical Olympiad Training Camp

Aakashians Qualified for RMO from Classroom Programs

869 Classroom Students **Qualified in IOQM 2024**

Class VIII Joish Achyuta 2 Year Classroom	Class VIII Pranava NS 3 Year Classroom	Class VIII Bruteshwar Rajguru 3 Year Classroom	Class VIII Hardik Mishra 2 Year Classroom	Class VIII Hardik Dhariwal 2 Year Classroom	Class IX Dhanush Damu 4 Year Classroom

and many more...

IOQM - Indian Olympiad Qualifier in Mathematics

Board Exam Results 2024

Top Performers from Class X

Devidyuti K Pisharody Marks 500/500 CBSE	P Harini Marks 499/500 CBSE	Jiya Dugar V Marks 498/500 CBSE

and many more...

Top Performers from Class XII

Ananthan R Marks 496/500 CBSE	Ansh Agrawal Marks 495/500 CBSE	Himanshu Agarwal Marks 495/500 CBSE

and many more...