

February 28

Week 09 Day (059-307) • Wednesday

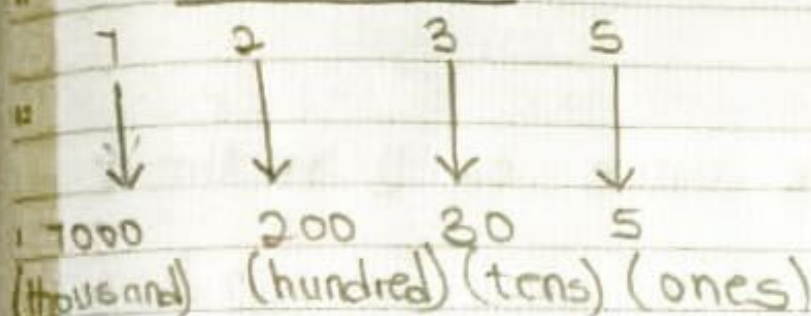
NUMERACY

Place value of numbers.

place value describes the position / place of a digit in a given number.

It could be ones, tens, hundreds, thousands, ten thousands etc.

For example



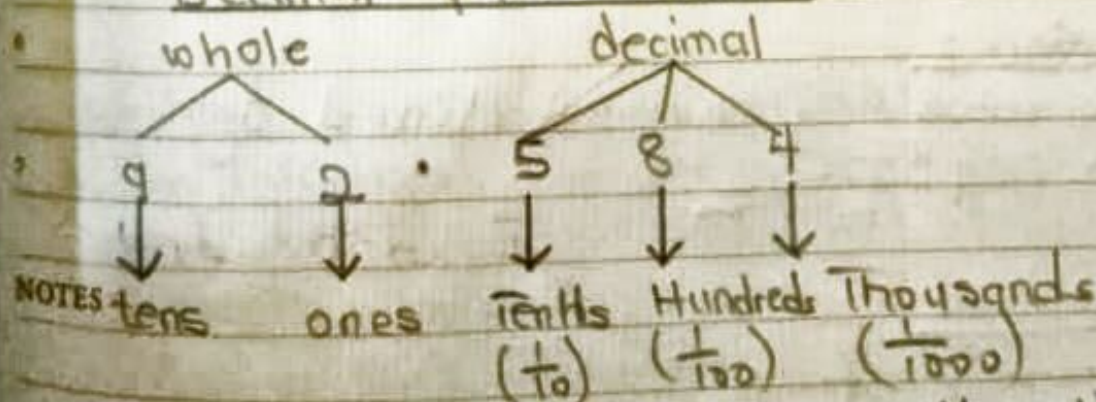
Que 1

Write down the place value of the underlined digit in the number, 3 2 1 6

A. 1 B. 10 C. 100 D. 1000

The correct answer is B. 10.

Decimal place value



Hence the place value of the digit after the decimal point is

2024

The starting point of all achievement is desire. - Napoleon Hill

29 February

Thursday • Week 09 Day (060-300)

January 2024						
S	M	T	W	T	F	S
01	1	2	3	4	5	6
02	8	9	10	11	12	13
03	15	16	17	18	19	20
04	22	23	24	25	26	27
05	29	30	31			

February 2024						
S	M	T	W	T	F	S
01	1	2	3	4	5	6
02	8	9	10	11	12	13
03	15	16	17	18	19	20
04	22	23	24	25	26	27
05	29	30	31			

$$5 = \frac{5}{10} = 0.5$$

$$8 = \frac{8}{100} = 0.08$$

$$4 = \frac{4}{1000} = 0.004$$

Question 1

Write down the place value of 3 in the number: 2.43

Solution

2. 4 3
↓ ↓ ↓
one tenth hundred

$$3 = \frac{3}{100} = 0.03$$

Question 2

What is the value of the underlined digit in the amount: 414222.22

NOTES

Solution

4 1 4 2 2 2 . 2 2
↓ ↓ ↓ ↓ ↓
20000 2000 200 20 2

April 2024

May 2024

March 01

Week 09 Day (061/305) • Friday

0.02 (2 pesetas)

Writing Numerals in words

Write the following numerals in words;

a) 13457

b) 258674

c) 6060606

d) 88888888

Solution

a) 13,457 → Thirteen thousand, four hundred and fifty-seven.

b) 258,674 → Two hundred and fifty eight thousand six hundred and seventy-four.

c) 6,060,606 → Six million, sixty thousand six hundred and six.

d) 88,888,888 → Eighty-eight million, eight hundred and eighty-eight thousand, eight hundred and eighty-eight.

Writing Numerals in figures:

a) Two hundred and twenty-two million, two hundred and twenty-two thousand, two hundred and

NOTES Twenty-two

Ans: 222,222,222

b) Fifty six million, seven hundred and sixty thousand three hundred and thirty. Ans: 56,760,330 2024

29 February

Thursday • Week 09 Day (060-306)

01	January 2024						
wk	M	T	W	T	F	S	S
01	1	2	3	4	5	6	7
02	8	9	10	11	12	13	14
03	15	16	17	18	19	20	21
04	22	23	24	25	26	27	28
05	29	30	31				

02	February						
wk	M	T	W	T	F	S	S
05							
06	5	6	7	8	9	10	11
07	12	13	14	15	16	17	18
08	19	20	21	22	23	24	25
09	26	27	28	29	30	31	

$$5 = \frac{5}{10} = 0.5$$

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12 Question 1

Write down the place value of 3 in the number: 2.43

2 Solution

2.43
↓ ↓ ↓
one tenth hundred

$$3 = \frac{3}{100} = 0.03$$

6 Question 2

What is the value of the underlined digit in the amount: GH¢ 222.22

NOTES

Solution
222.22
↓ ↓ ↓ ↓ ↓
200.00 20.00 2.00 0.20 0.02

2024

To succeed in your mission, you must have single-mindedness.

02 March

Saturday • Week 09 Day (062-304)

February 2024						
wk	M	T	W	T	F	S
05				1	2	3
06	5	6	7	8	9	10
07	12	13	14	15	16	17
08	19	20	21	22	23	24
09	26	27	28	29		

March 2024						
wk	M	T	W	T	F	S
09				1	2	3
10	4	5	6	7	8	9
11	11	12	13	14	15	16
12	18	19	20	21	22	23
13	25	26	27	28	29	30

Rounding of Numbers

Numbers can be rounded to the nearest: ten, hundred, thousand, ten thousand, hundred thousand, million etc.

Steps

1. Identify the place value of the number given in the question.

2. Identify the number to the immediate right of the place value column.

NB: If the number to the immediate right is 5 or more, we round up.

3. On the other hand, if the number to the immediate right is less than 5 we maintain.

Question

Round 157 to the nearest ten.

03

Sunday

Solution

1 5 7

↓

tens

= 160

NOTES

Question 2

Round 56578 to the nearest thousand

5 6 5 7 8

2024

↓

= 57,000

05 March

Tuesday • Week 10 Day (065-301)

February 2024							March						
02	03	04	05	06	07	08	09	10	11	12	13	14	15
wk	M	T	W	T	F	S	S	wk	M	T	W	T	F
05				1	2	3	4	09					
06	5	6	7	8	9	10	11	10	4	5	6	7	8
07	12	13	14	15	16	17	18	11	11	12	13	14	15
08	19	20	21	22	23	24	25	12	18	19	20	21	22
09	26	27	28	29				13	25	26	27	28	29

Question 3

* Round 6201 to the nearest thousand

9

Solution

6 2 0 1

10 ↓

thousand

11 6,000

12

Question 4

Round 7253 to the nearest ten thousand

1

Solution

2 0 7 2 5 3

↓

3 ten thousand

= 10,000

4

Question 5

5 Which of the following numbers is 10,000 more than 54321

6

Solution

7 5432 + 10000

= 15432

NOTES

NB: more $\Rightarrow +$

less $\Rightarrow -$

2024

April 2024

05

May 2024

	M	T	W	T	F	S	S
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30						

18							
19	6	7	8	9	10	11	12
20	13	14	15	16	17	18	19
21	20	21	22	23	24	25	26
22	27	28	29	30	31		

March 06

Week 10 Day (066-300) • Wednesday

Question 7

When rounded to the nearest thousand, the approximate number of people who watched a football match is 48,000. Which of the following could be the number of people who watched the match?

Solution

Hint: (Round each number to the nearest thousand)

A. 48,251



thousand
(48,000)

B. 48,538



thousand (49,000)

C. 48,750



thousand (49,000)

D. 48,850



thousand (49,000)

NOTES

The answer is A because the number after 8 is less than 5.

2024

APRIL

07 March

Thursday • Week 10 Day (067-299)

February 2024						
02	03	04	05	06	07	08
wk	M	T	W	T	F	S
05				1	2	3
06	5	6	7	8	9	10
07	12	13	14	15	16	17
08	19	20	21	22	23	24
09	26	27	28	29		

March 2024						
03	04	05	06	07	08	09
wk	M	T	W	T	F	S
09						
10	4	5	6	7	8	9
11	11	12	13	14	15	16
12	18	19	20	21	22	23
13	25	26	27	28	29	30

Question 8

- 8 Kwame has the number of cards as shown. What is the difference between the largest and the smallest four-digit numbers he can form if he is allowed to use each card only once for each four digit number.

11

7

4

1

6

2

12

Solution

1 Largest four-digit number

7542

2 Smallest four-digit number

1245

3 Their difference

$$\begin{array}{r} 7541 \\ - 1245 \\ \hline 6297 \end{array}$$

6

2024 Question 2

- 7 What is the place value of the underlined digit in the numeral 10, 53,107?

NOTES

09 March

Saturday • Week 10 Day (069-297)

February 2024						
02	M	T	W	T	F	S
05				1	2	3
06	5	6	7	8	9	10
07	12	13	14	15	16	17
08	19	20	21	22	23	24
09	26	27	28	29		

March 2024						
03	M	T	W	T	F	S
09						
10	4	5	6	7	8	9
11	11	12	13	14	15	16
12	18	19	20	21	22	23
13	25	26	27	28	29	30

Integers and Scientific Notation / Standard

⁸ form and its application in real life.

⁹ Scientific notation is a way of expressing numbers that are too large or too small in order to make them easier to work with.

¹⁰

Example 1

¹¹ A huge number like

→ 5,000,000,000 (five billion) is written in

¹² Scientific notation as:

$$5.0 \times 10^9$$

¹

Example 2

² A small number like 0.00000004 is written in Scientific notation as:

³ 4.0×10^{-8}

⁴

Question 1

a) 700000000

b) 6000000

¹⁰ Sunday

c) 73000

d) 432000

e) 321.45

f) 4034.8

NOTES

Solution

¹ a)

$$7,000,000,000$$

$$= 7.0 \times 10^9 \text{ or } 7 \times 10^9$$

2024

April 2024						
M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May 2024						
M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

positive - right to left
negative - left to right

March 11

Week 11 Day (071-295) • Monday

b) 6.00000
 6.0×10^5 or 6×10^5

c) 73000
 7.3×10^4

d) 321.45
 $= 3.2145 \times 10^2$

e) 4034.8
 $= 4.0348 \times 10^3$

Question 2

Write the following numbers in scientific notation form.

a) 0.0004

b) 0.0052

c) 0.07814

d) 0.05006

Solution

a) 0.0004
 $= 4.0 \times 10^{-4}$ or 4×10^{-4}

b) 0.0052
 $= 5.2 \times 10^{-3}$

NOTES

2024

APRIL

Number greater than less

12 March -

February 2024							March 2024						
02	M	T	W	T	F	S	03	M	T	W	T	F	S
05				1	2	3	09						
06	5	6	7	8	9	10	10	4	5	6	7	8	9
07	12	13	14	15	16	17	11	11	12	13	14	15	16
08	19	20	21	22	23	24	12	18	19	20	21	22	23
09	26	27	28	29			13	25	26	27	28	29	30

Tuesday • Week 11 Day (072-294)

c) 0.07814
 $\Rightarrow 7.814 \times 10^{-2}$

d) 0.0006
 $\Rightarrow 5.006 \times 10^{-2}$

When to use positive or negative exponent/
Index/Power in Scientific notation or Standard
form.

Numbers less than 1 are written in Scientific
notation with a negative exponent.

For example:

$0.0456 = 4.56 \times 10^{-2}$

WORD PROBLEMS (SCIENTIFIC NOTATION)

A robbery in London resulted in £6,040,000.00
being stolen. Write the stolen amount in
Scientific notation.

Solution

NOTES 6.0400000000
 $= 6.04 \times 10^9$

2024

Question 2

A floppy disk can store 1440000 bytes of data.
Express this storage in standard form.

Solution

1.440000

 1.44×10^6 bytes.WORD PROBLEMS INVOLVING INTEGERSQuestion 1

James account was in debt of GH¢2700.00
and he deposited GH¢1200.00 into the account.
What was his balance after the deposit?

Solution

$$-2700 + 1200$$

$$= -1500$$

$$= -\text{GH}1500.00$$

Hence, his account was in debt of GH¢1500.00

NB: Negative $\Rightarrow$ debt

positive $\Rightarrow$ deposit.

Question 2

NOTES Esi's account was in debt of GH¢5000.00
and she deposited GH¢3250.00 into the account.
What is the balance after the deposit?

14 March

Thursday • Week 11 Day (074-292)

February 2024							March 2024						
02	M	T	W	T	F	S	S	03	M	T	W	T	F
05				1	2	3	4	09				1	2
06	5	6	7	8	9	10	11	10	4	5	6	7	8
07	12	13	14	15	16	17	18	11	11	12	13	14	15
08	19	20	21	22	23	24	25	12	18	19	20	21	22
09	26	27	28	29				13	25	26	27	28	29

Solution

$$8 \quad - 5000 + 3250$$

$$= -1750$$

$$9 \quad = - \text{GH} \pounds 1750.00 //$$

Hence her account will be in debt of GH $\pounds$ 1750.00

Question 3

11 Lovia has GH $\pounds$ 8120.50 in her account. Calculate
12 her balance if she withdraws GH $\pounds$ 5220.20

Solution

$$8120.50 - 5220.20$$

$$2 \quad = 2900.30$$

$$= \text{GH} \pounds 2900.30 //$$

Question 4

4 Sir Chris has GH $\pounds$ 3282.70 in his bank
5 account. If he withdraws GH $\pounds$ 1255.20 on Monday
and withdraws GH $\pounds$ 1328.30 on Friday, calculate
6 the balance in his account.

Solution

$$3282.70 - 1255.20 - 1328.30$$

NOTES $= 699.20$

$$= \text{GH} \pounds 699.20 //$$

2024

The best revenge is massive success. -Frank Sinatra

April 2024

05

May 2024

Cal	M	T	W	T	F	S	S
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30						

Cal	M	T	W	T	F	S	S
1	2	3	4	5	6	7	
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31					

March 15

Week 11 Day (075-291) • Friday

Question 5

A submarine at 21 feet below sea level suddenly moves up above 6 feet. At what depth is the submarine located now?

Solution

$$-21 \text{ feet} + 6 \text{ feet} = -15 \text{ feet}$$

Hence the submarine is 15 feet below sea level

NB: below $\Rightarrow$ negative (-)
above $\Rightarrow$ positive (+)

Question 6

A research team aboard an underwater research vessel descends 1500 feet beneath the surface of the water. They then rise 525 feet and descend again 350 feet. Where are they currently located?

Solution

- A. 625 ft beneath the surface
- B. 625 ft above the surface
- C. 1325 ft above the surface
- D. 1325 ft beneath the surface

Solution

$$-1500 + 525 - 350 = -1325 \text{ feet}$$

$\Rightarrow$ 1325 feet beneath the surface

NB: beneath $\Rightarrow$ negative
above $\Rightarrow$ positive

2024

16 March

Saturday • Week 11 Day (076-290)

02	February 2024						
wk	M	T	W	T	F	S	S
05				1	2	3	4
06	5	6	7	8	9	10	11
07	12	13	14	15	16	17	18
08	19	20	21	22	23	24	25
09	26	27	28	29			

03	March 2024						
wk	M	T	W	T	F	S	S
09					1	2	3
10	4	5	6	7	8	9	10
11	11	12	13	14	15	16	17
12	18	19	20	21	22	23	24
13	25	26	27	28	29	30	31

Question 1

- * You park in a garage 3 floors below ground level. Then you get in the elevator and go up 12 floors. What floor do you get off the elevator?

- 10 A. 15th floor
B. 11th floor
11 C. 9th floor
D. 12th floor

12

Solution

- 1 $-3 + 12$
 $= 9$
2 $\Rightarrow$ 9th floor Ans. C

3

Question 8

- * In 2002, Tiger Woods won the masters tournament. His scores were:

17 Sunday $-2, -3, -6$ and -1 four rounds - what was his final score?

- A. 12 B. -12
C. 11 D. -11

Solution

NOTES $-2 + -3 + -6 + -1$
 $= -12$

Answer: B.

April 2024

05

May 2024

March 18

Week 12 Day (078-288) • Monday

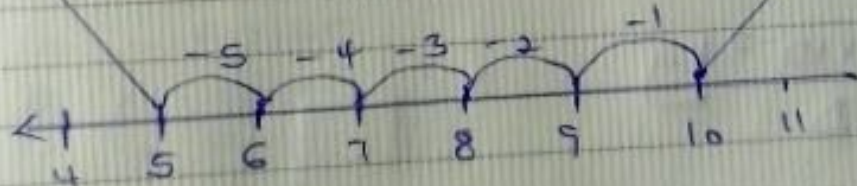
Question 9

When a fridge cools water from a temperature of 10°C to 5°C , by how many degrees has the temperature changed?

A. 15°C B. -15°C C. 5°C D. -5°C Solution

Final temperature

Initial temperature

NB: Left movement $\Rightarrow$ negativeRight movement $\Rightarrow$ positiveAnswer: D. -5°C

APRIL

2024

19 March

Tuesday • Week 12 Day (079-287)

wk	M	T	W	T	F	S	S	wk	M	T	W	T	F	S	S
05				1	2	3	4	09							
06	5	6	7	8	9	10	11	10	4	5	6	7	8	9	10
07	12	13	14	15	16	17	18	11	11	12	13	14	15	16	17
08	19	20	21	22	23	24	25	12	18	19	20	21	22	23	24
09	26	27	28	29				13	25	26	27	28	29	30	31

The mass of shoe is 0.015kg . Express this mass in standard form.

Solution

$$0.015 = 1.5 \times 10^{-2} \text{ kg}$$

A. $1.5 \times 10^{-3} \text{ kg}$
 B. $1.5 \times 10^2 \text{ kg}$
 C. $1.5 \times 10^3 \text{ kg}$
 D. $1.5 \times 10^{-2} \text{ kg}$

Solution

$$0.015 = 1.5 \times 10^{-2} \text{ kg}$$

$= 1.5 \times 10^{-2} \text{ kg}$

Ans: D

2024 Question 48

Express 0.00003963 in standard form

- A. 3.96×10^{-5}
 B. 3.963×10^{-6}
 C. 3.96×10^{-6}
 D. 3.963×10^{-5}

Solution

$$0.00003963 = 3.963 \times 10^{-5}$$

Answer: D

NOTES

2024

2024 question 14

Which of the following statement is true?

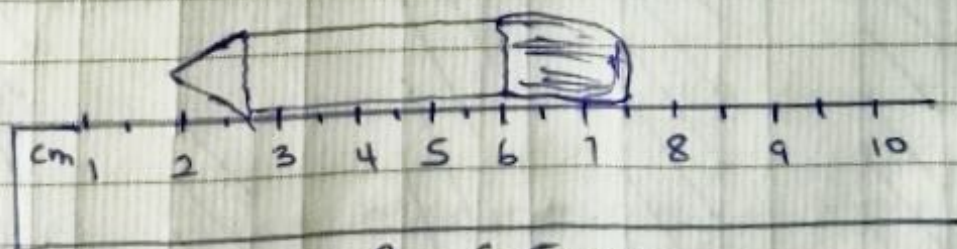
- A. A mile is shorter than kilometer.
 B. A temperature of 4°C is hotter than a temperature of -4°C .
 C. A temperature of 4°C is colder than a temperature of -4°C .
 D. A tonne of iron rod is lighter than a tonne of cotton wool.

Solution

- option A - False
 option B - True
 option C - False
 option D - False

2024 question 15

A pupil placed a pencil on the side of a ruler as shown below. How long is the pencil?



NOTES

A. 5.5cm

B. 6.5cm

C. 7.5cm

D. 8.5cm

Solution

$$7.5\text{cm} - 2.0\text{cm} = 5.5\text{cm} \quad \text{Ans: D}$$

2024

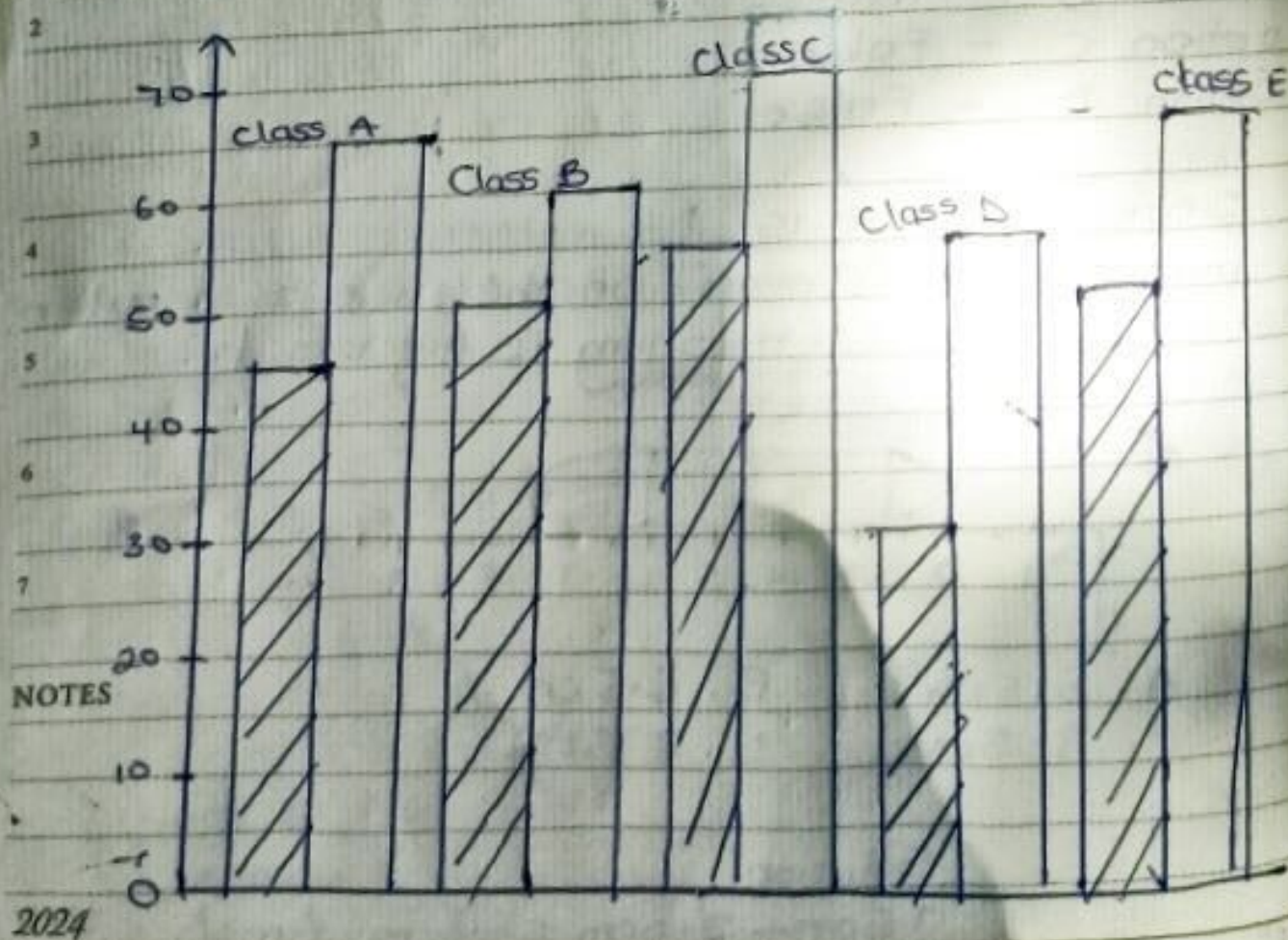
21 March

Thursday • Week 12 Day (081-285)

February 2024							March 2024						
02	M	T	W	T	F	S	03	M	T	W	T	F	S
05				1	2	3	09					1	2
06	5	6	7	8	9	10	10	4	5	6	7	8	9
07	12	13	14	15	16	17	11	11	12	13	14	15	16
08	19	20	21	22	23	24	12	18	19	20	21	22	23
09	26	27	28	29			13	25	26	27	28	29	30

PREAMBLE

A tutor who teaches five classes in year one in a college made her students to take a mean pre-test at the beginning of a topic and a mean post-test at the end of the topic to elevate the mean pre-test and post-test progress made by each class. The chart shows the mean pre-test and post-test scores obtained by each class. Use the chart below to answer question 12 and 13.



April 2024

05

May 2024

March 22

Week 12 Day (082-284) • Friday

KEY

▨ — pre-test

□ — post-test

12. Which class showed the greatest progress in learning from the post-test mean scores?

- A. Class A
- B. Class B
- C. class C
- D. class D

Solution

Class	Pre-test	Post-test	Progress
A	45	64	19
B	50	60	10
C	55	68	13
D	34	55	21
E	52	65	13

Ans. **C** D

13. Which class obtained the highest mean scores in both the pre-test and post-test?

- A. Class A
- B. Class B
- C. class C
- D. class D

2024

Never interrupt someone doing what you said couldn't be done. - Amelia Earhart

APRIL

23 March

Saturday • Week 12 Day (083-283)

02

February 2024

03

wk M T W T F S S
 05 1 2 3 4
 06 5 6 7 8 9 10 11
 07 12 13 14 15 16 17 18
 08 19 20 21 22 23 24 25
 09 26 27 28 29

wk M T W T F S S
 09 1 2 3 4 5 6 7
 10 8 9 10 11 12 13 14
 11 15 16 17 18 19 20 21
 12 22 23 24 25 26 27 28
 13 29 30

Solution

class	Pre-test	post-test	progress
A	45	64	19
B	50	60	10
C	(55)	(68)	13
D	34	55	21
E	52	65	13

Ans: C

Try (Algebra)

A wheelbarrow weighs w kilograms when empty and a brick weighs b kilograms. What is the total weight in kilograms when it is carrying n bricks

- A. $nbt + w$
- B. $n + b + w$
- 24 C. $n(b + w)$
- D. $nb + w$

Solution

Weight of the empty wheelbarrow = w
 Weight of n bricks = nb

NOTES Total weight carried by the wheelbarrow = $nb + w$

Ans: A

2024

For every minute you are angry you lose sixty seconds of happiness. - Ralph Waldo Emerson

Try (Measurement of Length)

The table below shows the height limits of four road tunnels in Accra.

Road Tunnel	Height limits (meters)
Airport Tunnel	5.0
Achimota Tunnel	4.4
Ni Motorway	4.8
East Legon Road	4.4

Truck A is loaded up to 4.5 metres and
 Truck B is loaded up to 4.3 metres.
 Which of the following shows the tunnel that
 both trucks A and B can use safely?

- A. Airport tunnel and Achimota tunnel
- B. Airport tunnel and East Legon Road
- C. Airport tunnel and Ni motorway
- D. Ni motorway and East Legon Road.

Answer: C Airport tunnel and Ni motorway.

Tuesday • Week 13 Day (086-280)

05				1	2	3	4	09						
06	5	6	7	8	9	10	11	10	4	5	6	7	8	9
07	12	13	14	15	16	17	18	11	11	12	13	14	15	16
08	19	20	21	22	23	24	25	12	18	19	20	21	22	23
09	26	27	28	29				13	25	26	27	28	29	

MULTIPLES OF A NUMBER

* Multiples of a number n are numbers that leave no remainder when it is divided by n .

9
- This can be found by multiplying the number
10 (n) by 1, 2, 3, 4, 5, ...

11. This can also be found by adding the number to itself over and over again.

Example multiples of 2 are numbers that ~~can~~
leave no remainder when it is divided by 2
Eg. 2, 4, 6, 8, 10, 12, 14 - - - - -

Question 1

Question
Which of the following is a multiple of 4?

A. 86 B. 94 C. 112 D. 124

Solution

$$A - \frac{86}{14} = 6 \frac{1}{7} \text{ (Remainder 1)}$$

B. $\frac{94}{14} = 6\frac{5}{7}$ (Remainder 5)

NOTES

c. $\frac{112}{14} = 8$ (Remainder 0)

2024

$$D = \frac{124}{14} = 8 \frac{6}{7} \text{ (Remainder 6)}$$

Ans: C

LEAST COMMON MULTIPLES (LCM)

LCM is the smallest multiple that is common to two or more given numbers.

• It is the smallest number that can divide exactly without leaving a remainder.

How to find LCM of two or more numbers

- ✓ List the multiples of each number
- ✓ Identify the multiples that are common to all numbers
- ✓ Find the smallest multiple that is common to all numbers.

question 1

Find the least common multiple (LCM) of the following numbers

a) 3 and 4

b) 5 and 4

c) 3, 4 and 6

Solution

a) 3 and 4

3's 3, 6, 9, 12, 15, 18, 21, 24, ...

2024

28 March

Thursday • Week 13 Day (088-278)

February 2024							March						
02	03	04	05	06	07	08	09	10	11	12	13	14	15
05	06	07	08	09	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	

$$4 = \{4, 8, 12, 16, 20, 24, 28, \dots\}$$

$$8 \text{ common multiples} = \{12, 24\}$$

$$\text{Least common multiple (LCM)} = 12$$

b) 5 and 4

$$5 = \{5, 10, 15, 20, 25, 30, \dots\}$$

$$4 = \{4, 8, 12, 16, 20, 24, 28\}$$

$$\text{common multiples} = \{20, 40\}$$

$$\text{LCM} = 20$$

c) 3, 4 and 6

$$3 = \{3, 6, 9, 12, 15, 18, 21, 24, 27, 30, \dots\}$$

$$4 = \{4, 8, 12, 16, 20, 24, 28, 32, \dots\}$$

$$6 = \{6, 12, 18, 24, 30, 36\}$$

$$\text{LCM} = 12$$

APPLICATION OF LEAST COMMON MULTIPLES

Question 1

Two bells commence tolling together and toll at intervals of 3 seconds and 4 seconds respectively. After how many seconds will the two bells toll at the same time?

A. 7 seconds B. 8 seconds C. 10 seconds D. 12 seconds

Solution

✓ The first bell will toll after every:
 3 seconds, 6 seconds, 9 seconds, 12 seconds, 15 seconds.

✓ The second bell will toll after every:
 4 seconds, 8 seconds, 12 seconds, 16 seconds.

April 2024							05	May 2024						
M	T	W	T	F	S	S		M	T	W	T	F	S	S
1	2	3	4	5	6	7		18		1	2	3	4	5
8	9	10	11	12	13	14		19	6	7	8	9	10	11
15	16	17	18	19	20	21		20	13	14	15	16	17	18
22	23	24	25	26	27	28		21	20	21	22	23	24	25
29	30							22	27	28	29	30	31	

March 29

Week 13 Day (089-277) • Friday

30 seconds - - - - -

✓ select the time (seconds) after which the two bells will toll together (ie 12 seconds)

Ans: D

NB: Seconds is nothing But the Lcm of 3 and 4.

Question 2

Two traffic lights blink at intervals of 30 seconds and 20 seconds respectively. After how many seconds will they blink together.

A. 40 seconds

B. 60 seconds

C. 80 seconds

D. 100 seconds.

Solution

lets find the Lcm of 30 and 20

30 = { 30, 60, 90, 120 - - - }

20 = { 20, 40, 60, 80 - - - }

Common multiples = { 60, 120 }

L.C.M = 60

60 seconds

Ans: B.

NOTES

APRIL

2024

Question 3.

A bus arrives every 6 minutes and a train arrives every 5 minutes at a station. If both arrive together at 8:00 am, at what time will they next arrive together?

- A. 8:11 am
- B. 8:20 am
- C. 8:30 am
- D. 8:24 am

Solution:

Find the L.C.M of 6 and 5

6 { 6, 12, 18, 24, 30, 36, 42, ... }

5 { 5, 10, 15, 20, 25, 30, 35, ... }

Common multiples = { 30, 60, ... }

L.C.M = 30 minutes

NB: The bus and the train will both arrive together in 30 minutes time

Hr	m
+ 8	00
0	30
8	30 am

Ans: C

02 April

Tuesday • Week 14 Day 1993-2739

March 2024							04						
01	M	T	W	T	F	S	02	M	T	W	T	F	S
03					1	2	04	1	2	3	4	5	6
05	4	5	6	7	8	9	10	11	12	13	14	15	16
11	11	12	13	14	15	16	17	18	19	20	21	22	23
12	18	19	20	21	22	23	24	25	26	27	28	29	30
13	25	26	27	28	29	30	31	01	02	03	04	05	06

Question 4

At a power station, lights at three corners flash at intervals: 6 minutes, 5 minutes and 10 minutes respectively. If all the three lights flash at a quarter to 11:00 am, at what time will all the three lights flash together again?

- A. 11:45 am B. 10:45 am
C. 11:30 am D. 11:15 am

Solution

Find the L.C.M of 6, 5, and 10

$$6 = \{6, 12, 18, 24, 30, 36, \dots\}$$

$$5 = \{5, 10, 15, 20, 25, 30, 35, \dots\}$$

$$10 = \{10, 20, 30, 40, 50, 60, \dots\}$$

Common multiples = $\{30, 60, \dots\}$
 L.C.M = 30

NB: Quarter to 11:00 am
 (10:45 am)

The three lights will flash together again in 30 minutes after 10:45 am

NOTES	Hr	min
	+ 10	45
	0	30
	11	15 am

2024

April 03

Week 14 Day (094-272) • Wednesday

06

June 2024

wk	M	T	W	T	F	S	S
22						1	2
23	3	4	5	6	7	8	9
24	10	11	12	13	14	15	16
25	17	18	19	20	21	22	23
26	24	25	26	27	28	29	30

Ans: D

Try (Probability)

In a class of 20 pupils, there are 13 boys. What is the probability of picking a girl randomly from the class?

A. $\frac{17}{20}$

B. $\frac{7}{13}$

C. $\frac{6}{13}$

D. $\frac{7}{20}$

Solution

Total number of pupils = 20

Number of Boys = 13

Number of girls (G) = $20 - 13 = 7$

$$P(G) = \frac{7}{20}$$

Ans: D

Try (Measurement of money)

A student has 6 five Ghana cedis notes, 2 ten Ghana cedis note. How much do the student have altogether?

A. GH¢ 90.00

B. GH¢ 145.00

C. GH¢ 150.00

D. GH¢ 170.00

2024

The truth will set you free, but first it will piss you off. - Gloria Steinem

Ans: D

Try (Probability)

In a class of 20 pupils, there are 13 boys. What is the probability of picking a girl randomly from the class?

- A. $\frac{17}{20}$ B. $\frac{7}{13}$ C. $\frac{6}{13}$ D. $\frac{7}{20}$

~~Try~~ Solution

Total number of pupils = 20

Number of Boys = 13

Number of girls (G) = $20 - 13 = 7$

$$P(G) = \frac{7}{20}$$

Ans: D

Try (Measurement of money)

A student has 6 five Ghana cedis notes, 2 ten Ghana cedis note. How much do the student have altogether?

- A. GH¢ 90.00
B. GH¢ 145.00
C. GH¢ 150.00
D. GH¢ 170.00

04 April

Thursday • Week 14 Day (095-271)

03	March 2024						
wk	M	T	W	T	F	S	S
09					1	2	3
10	4	5	6	7	8	9	10
11	11	12	13	14	15	16	17
12	18	19	20	21	22	23	24
13	25	26	27	28	29	30	31

Solution

$$\begin{aligned} 8 \quad 6 \text{ of GH¢ } 5 &= 6 \times \text{GH¢ } 5 \\ &= \text{GH¢ } 30 \end{aligned}$$

$$\begin{aligned} 9 \quad 2 \text{ of GH¢ } 10 &= 2 \times \text{GH¢ } 10 \\ 10 \quad &= \text{GH¢ } 20 \end{aligned}$$

$$\begin{aligned} 11 \quad 2 \text{ of GH¢ } 50 &= 2 \times \text{GH¢ } 50 \\ &= \text{GH¢ } 100 \end{aligned}$$

$$\begin{aligned} 12 \quad \text{Total Amount of money} \\ 1 \quad \text{GH¢ } 30 + \text{GH¢ } 20 + \text{GH¢ } 100 \\ &= \text{GH¢ } 150.00 \end{aligned}$$

2
Answer: C

3

4

5

6

7

NOTES

May 2024							06	June 2024						
M	T	W	T	F	S	S	wk	M	T	W	T	F	S	S
			1	2	3	4	22					1	2	
6	7	8	9	10	11	12	23	3	4	5	6	7	8	9
13	14	15	16	17	18	19	24	10	11	12	13	14	15	16
20	21	22	23	24	25	26	25	17	18	19	20	21	22	23
27	28	29	30	31			26	24	25	26	27	28	29	30

April 05

Week 14 Day (096-270) • Friday

PROBABILITY/CHANCE

probability is a measure of the likelihood of an event occurring.

Real-life Situations that give rise to Probability

- Will it rain today?
- Will I win the lottery?
- Will I pass the exams?

These situations involve uncertain and probability provides a way to quantify these uncertainty.

Sample space(s)

This is the set of all possible outcomes of an experiment.

Examples

- a) Tossing a coin: $S = \{\text{Head, Tail}\}$
- b) Rolling a die: $S = \{1, 2, 3, 4, 5, 6\}$

Definition of probability
 $P(E) = \frac{n(E)}{n(S)}$, where

NOTES

$P(E)$ = the probability of an event (E) occurring
 $n(E)$ = number of element in event (E)
 $n(S)$ = number of elements in the sample space (S)

2024

Tell the truth, or someone will tell it for you. - Stephanie Klein

06 April

Saturday • Week 14 Day (097-269)

03 March 2024							04						
wk	M	T	W	T	F	S	S	wk	M	T	W	T	F
09					1	2	3	14	1	2	3	4	5
10	4	5	6	7	8	9	10	15	8	9	10	11	12
11	11	12	13	14	15	16	17	16	15	16	17	18	19
12	18	19	20	21	22	23	24	17	22	23	24	25	26
13	25	26	27	28	29	30	31	18	29	30			

Question 1

* A number is chosen at random from the set

$$S = \{4, 7, 10, 13, 16, 19\}$$

* What is the probability that the number is;

i) even ii) odd.

iii) greater than 10

iv) less than 10

v) between 4 and 19

12

Solution

$$1) P(\text{even}) = \frac{n(\text{even})}{n(S)} = \frac{3}{6} = \frac{1}{2}$$

$$2) i) P(\text{odd}) = \frac{n(\text{odd})}{n(S)} = \frac{3}{6} = \frac{1}{2}$$

$$3) iii) P(\text{greater than 10}) = \frac{3}{6} = \frac{1}{2}$$

$$4) 07) P(\text{less than 10}) = \frac{2}{6} = \frac{1}{3}$$

$$v) P(\text{between 4 and 19}) = \frac{4}{6} = \frac{2}{3}$$

NOTES NB: Always reduce the fraction to the lowest form.

W	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

W	T	W	T	F	S	S
22					1	2
23	3	4	5	6	7	8
24	10	11	12	13	14	15
25	17	18	19	20	21	22
26	24	25	26	27	28	29

April 08

Week 15 Day (099-267) • Monday

Question 2

In a class of 20 boys and 35 girls, what is the probability that a student selected at random is;

a) a boy

b) a girl

Solution

$$\text{Total number of student} = 20 + 35 = 55$$

$$a) P(\text{boy}) = \frac{20}{55} = \frac{4}{11}$$

$$b) P(\text{girl}) = \frac{35}{55} = \frac{7}{11}$$

Question 3

A bag contains 24 marbles, 10 of the marbles are blue and the rest are green. A boy picks a marble at random from the bag. What is the probability that he picks

NOTES a) a blue marble?

b) a green marble?

Solution

$$n(B) = 10$$

$$n(S) = 24$$

$$n(G) = 24 - 10 = 14$$

$$a) P(B) = \frac{n(B)}{n(S)} = \frac{10}{24} = \frac{5}{12}$$

$$b) P(G) = \frac{n(G)}{n(S)} = \frac{14}{24} = \frac{7}{12}$$

Question 4

A box contains 7 blue, 5 red and 8 white identical balls. If a ball is chosen at random from the box, what is the probability that it is;

a) Blue b) Red c) White

Solution

$$n(B) = 7, n(R) = 5 \text{ and } n(W) = 8$$

$$n(S) = 7 + 5 + 8 = 20$$

$$a) P(B) = \frac{n(B)}{n(S)} = \frac{7}{20}$$

NOTES

$$b) P(R) = \frac{n(R)}{n(S)} = \frac{5}{20} = \frac{1}{4}$$

2024

$$c) P(W) = \frac{n(W)}{n(S)} = \frac{8}{20} = \frac{2}{5}$$

Past Questions 2024

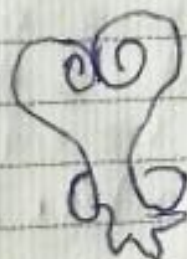
70. How many lines of symmetry does this adiakra symbol have?

A. 1

B. 2

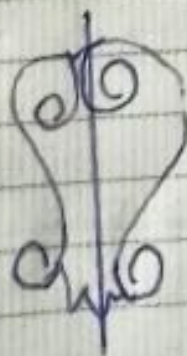
C. 3

D. 4



Solution

Answer : A



It has only one line of symmetry.

Question 69

Sir EKON wants to collect the data on the number of students who were present during the literacy lectures on Monday. Which of the following describe the type of data?

A. Continuous data

B. Qualitative data

2024

11 April

Thursday • Week 15 Day (102-264)

03

March 2024

04

wk	M	T	W	T	F	S	S
09					1	2	3
10	4	5	6	7	8	9	10
11	11	12	13	14	15	16	17
12	18	19	20	21	22	23	24
13	25	26	27	28	29	30	31

wk	M	T	W	T	F	S	S
14	1	2	3	4	5	6	7
15	8	9	10	11	12	13	14
16	15	16	17	18	19	20	21
17	22	23	24	25	26	27	28
18	29	30					

C. Discrete data

D. Nominal data

Ans. C Discrete data.

10

Question 68

A parent invited 12 children to her daughters birthday party. She has a box containing 128 Chocolates. What is the smallest number of chocolates that must be added so that each child has the same number?

A. 5 chocolates

B. 4 chocolates

C. 3 chocolates

D. 2 chocolates.

4

Solution

No of Chocolates = 128

No of Children = 12

6

$$128 = 10 \times 12 + 8$$

NB: When 128 chocolates are shared among 12 children, each child will get 10 chocolates leaving a remainder of 8 chocolates.

4 chocolates must be added to 8 chocolates so that each child has the same number. Ans. B

2024

May 2024							06	June 2024						
M	T	W	T	F	S	S	wk	M	T	W	T	F	S	S
							22						1	2
1	2	3	4	5			23	3	4	5	6	7	8	9
6	7	8	9	10	11	12	24	10	11	12	13	14	15	16
13	14	15	16	17	18	19	25	17	18	19	20	21	22	23
20	21	22	23	24	25	26	26	24	25	26	27	28	29	30
27	28	29	30	31										

April 12

Week 15 Day (103-263) • Friday

Question 62

A group of 5 workers can complete a task in 20 days. How many days will it take for 10 workers to complete the same task?

- A. 40 days
- B. 10 days
- C. 25 days
- D. 15 days

Solution

5 — 20 days
10 — ?

$$\frac{5}{10} \times 20 \text{ days} = 10 \text{ days}$$

Ans: B

Question 61

A budget (y) for a project must be at least GH¢ 2,000.00 but not more than GH¢ 5,000.00. Write inequality to represent the budget.

A. $\text{GH¢ } 2000.00 \leq y \leq \text{GH¢ } 5000.00$

NOTES B. $\text{GH¢ } 2000.00 < y < \text{GH¢ } 5000.00$

C. $\text{GH¢ } 2,000.00 < y \leq \text{GH¢ } 5,000.00$

D. $\text{GH¢ } 2000.00 \leq y < \text{GH¢ } 5,000.00$ 2024

13 April

Saturday • Week 15 Day (104-262)

March 2024						
03	04	05	06	07	08	09
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April 2024						
01	02	03	04	05	06	07
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Ans: A

$$GH\ 2,000.00 \leq y \leq GH\ 5,000.00$$

Question 57

10 When Sarah was 10 years old, her sister was half her age. If Sarah is now 30 years, how old is her sister?

- 12 A. 15 years old
- B. 20 years old
- 1 C. 25 years old
- D. 28 years old

Solution

3 Sarah	Sister
10 years	5 years

Age difference

$$10 \text{ years} - 5 \text{ years} = 5 \text{ years}$$

14 Sunday

Current age of Sarah
30 years old

Her sister's age
 $30 - 5 = 25 \text{ years}$

NOTES

Ans: c

NB: Their age difference remains constant.

2024

May 2024

06

June 2024

wk	M	T	W	T	F	S	S
18			1	2	3	4	5
19	6	7	8	9	10	11	12
20	13	14	15	16	17	18	19
21	20	21	22	23	24	25	26
22	27	28	29	30	31		

wk	M	T	W	T	F	S	S
22						1	2
23	3	4	5	6	7	8	9
24	10	11	12	13	14	15	16
25	17	18	19	20	21	22	23
26	24	25	26	27	28	29	30

April 15

Week 16 Day (106-260) • Monday

Question 55

A square garden has an area of 81m^2 . Find the perimeter of the garden.

A. 18m

B. 36m

C. 40m

D. 45m

Solution

$$\text{Area (A)} = L^2$$

$$81 = L^2$$

$$\sqrt{81} = \sqrt{L^2}$$

$$9 = L$$

$$L = 9\text{m}$$

$$L = 9\text{m}$$

Perimeter (P) of a square

$$P = 4L$$

$$P = 4 \times 9$$

$$P = 36\text{m} //$$

Ans: B

NOTES

16 April

Tuesday • Week 16 Day (107-259)

03							March 2024							04
wk	M	T	W	T	F	S	1	2	3	4	5	6	7	8
09							1	2	3	4	5	6	7	8
10	4	5	6	7	8	9	10	11	12	13	14	15	16	17
11	11	12	13	14	15	16	17	18	19	20	21	22	23	24
12	18	19	20	21	22	23	24	25	26	27	28	29	30	31
13	25	26	27	28	29	30	31							

Question 52

8 A chef prepares 2.4 kilograms of soup and pours it equally into 6 bowls. What is the mass of soup in each bowl?

10 A. 200 grams

11 B. 300 grams

12 C. 400 grams

1 D. 500 grams

Solution

2 Total quantity of Soup = 2.4 Kg

3 Convert 2.4 kg to g

$$4 \quad 1 \text{ kg} = 1000 \text{ g}$$

$$5 \quad 2.4 \text{ kg} = ?$$

$$6 \quad \begin{array}{r} 2.4 \text{ kg} \\ 1 \text{ kg} \end{array} \times 1000 \text{ g}$$

$$7 \quad = 2400 \text{ g}$$

NOTES

$$\text{mass of Soup in each bowl} = \frac{2400}{6} = 400 \text{ g}$$

NOTES

April 17

Week 16 Day (108-258) • Wednesday

Question 51

A fair die is thrown once. Find the probability of obtaining a two

A. $\frac{2}{3}$

B. $\frac{1}{3}$

C. $\frac{1}{6}$

D. $\frac{5}{6}$

Solution

$$S = \{1, 2, 3, 4, 5, 6\}$$

$$p(\text{two}) = \frac{1}{6}$$

Ans. ~~A~~ C

18 April

Thursday • Week 16 Day (109-257)

03	March 2024							04							
wk	M	T	W	T	F	S	S	wk	M	T	W	T	F	S	S
09					1	2	3	14	1	2	3	4	5	6	7
10	4	5	6	7	8	9	10	15	8	9	10	11	12	13	14
11	11	12	13	14	15	16	17	16	15	16	17	18	19	20	21
12	18	19	20	21	22	23	24	17	22	23	24	25	26	27	28
13	25	26	27	28	29	30	31	18	29	30	31				

Question 50

* A polytank contains 6000 litres of water. If 4500 litre of water is used, what percent of the original quantity is left?

10 A. 75%

11 B. 25%

12 C. 45%

1 D. 35%

Solution

Quantity of water left in the tank

$$6000 - 4500$$

1500 litres

percentage of water left =

$$\frac{1500}{6000} \times 100$$

$$= 25\%$$

Ans: B

NOTES

2024

Time is nature's way of keeping everything from happening at once. - Woody Allen

Question 47

The table below shows the number of loaves of bread sold by Adinkra Bakery within a week

Day	Monday	Tuesday	Wednesday	Thursday	Fr	Sat
No of loaves	1320	1404	3264	1234	3425	4216

calculate the range of sales.

- A. 2896 loaves of bread
- B. 2105 loaves of bread
- C. 2982 loaves of bread
- D. 2812 loaves of bread

Solution

NB: Range is the difference between the largest and the smallest number in a given set of data

$$\begin{aligned}
 \text{Largest sale} &= 4216 \\
 \text{smallest sale} &= 1234 \\
 \text{Range} &= 4216 - 1234 \\
 &= 2982 \text{ loaves of bread}
 \end{aligned}$$

Ans: C

15. A contingent of 75 athletes has 15 more boys than girls. If a leader is to be selected from the contingent, what is the probability that a girl is selected?

A. $\frac{1}{5}$

B. $\frac{2}{5}$

C. $\frac{3}{5}$

D. $\frac{4}{5}$