

# Answers

(1) 120

## Step 1

This solid shape is made of several small cubes:

- Number of cubes forming the width of the shape = 6
- Number of cubes forming the depth of the shape = 5
- Number of cubes forming the height of shape = 4

## Step 2

Number of cubes required to make top part of solid shape =  $6 \times 5 = 30$

## Step 3

Since, height of the given shape is 4 small cubes, there will be 4 such layers.

Therefore, total number of small cubes required to make the given shape =  $30 \times 4 = 120$

(2) €26681

## Step 1

According to the question, Patrycja's dad bought the house for €26726 and sold it for €45 less than the cost price. To find the selling price, we will subtract 45 from 26726.

## Step 2

Calculating the difference :

$$26726 - 45 = 26681$$

## Step 3

Therefore, Patrycja sold the house for **€26681**.

(3) Heptagon

We know that a polygon with 7 sides is called a Heptagon.

(4) 75

**Step 1**

From first expression we have:  $\text{☁} + \text{☁} + \text{☁} = 54$

or  $3 \text{☁} = 54$

On dividing both sides by 3, we get:  $\text{☁} = 18$

**Step 2**

From second expression we have:  $\text{☁} - 5 \text{⦿} = \text{⦿}$

or  $\text{☁} = \text{⦿} + 5 \text{⦿}$

or  $\text{☁} = 6 \text{⦿}$

We can replace  $\text{☁} = 18$  as we found out in step 1:

$18 = 6 \text{⦿}$

Dividing each side by 6, we get  $\text{⦿} = 3$

**Step 3**

We now have the value of both the symbols, let us put in the third expression to find its value:

$\text{☁} + \text{☁} + \text{☁} + \text{☁} + \text{⦿}$

$= 4 \text{☁} + 1 \text{⦿}$

$= 4 \times 18 + 1 \times 3$

$= 72 + 3$

$= 75$

**Step 4**

Hence, the value of  $\text{☁} + \text{☁} + \text{☁} + \text{☁} + \text{⦿}$  is **75**.

(5) 7513005

**Step 1**

We have been given the expanded form of a number. In order to find the number, we will add the given place values of all digits.

**Step 2**

Performing the desired addition, we get the number as **7513005**.

- (6) A) one million three hundred sixty-nine thousand nine hundred fifty-six

**Step 1**

Let us first convert the given number into numerals:

three thousand nine hundred forty-eight = 3948

three hundred forty-seven = 347

**Step 2**

The product will be:

$$\begin{array}{r} 3948 \\ \times 347 \\ \hline 27636 \\ 157920 \\ 1184400 \\ \hline 1369956 \end{array}$$

**Step 3**

Therefore, the product of three thousand nine hundred forty-eight by three hundred forty-seven is **one million three hundred sixty-nine thousand nine hundred fifty-six**.

- B) two million six hundred twenty thousand two hundred ninety-nine

**Step 1**

Let us first convert the given number into numerals:

eight thousand nine hundred forty-three = 8943

two hundred ninety-three = 293

**Step 2**

The product will be:

$$\begin{array}{r} 8943 \\ \times 293 \\ \hline 26829 \\ 804870 \\ 1788600 \\ \hline 2620299 \end{array}$$

**Step 3**

Therefore, the product of eight thousand nine hundred forty-three by two hundred ninety-three is **two million six hundred twenty thousand two hundred ninety-nine**.

(7) 6779

**Step 1**

Remember: One dozen of oranges means 12 oranges.

**Step 2**

Total number of oranges = 81348

**Step 3**

Number of dozens of oranges =  $\frac{\text{Total number of oranges}}{\text{One dozen of oranges}}$

$$= \frac{81348}{12}$$

$$= 6779$$

**Step 4**

Therefore, **6779** dozens of oranges are there in a total of 81348 oranges.

(8) A) 578.621

**Step 1**

Let us first add the first three numbers which are not fractions:  $500 + 70 + 8 = 578$

**Step 2**

Let us next convert the last three fractions to decimals:

$$\frac{6}{10} = 0.6$$

$$\frac{2}{100} = 0.02$$

$$\frac{1}{1000} = 0.001$$

**Step 3**

Let's use the place value chart to add the whole numbers and the decimal numbers as:

	Ones	Tenths	Hundredths	Thousandths			
	H	T	O	(1/10)	(1/100)	(1/1000)	
	5	7	8	.	0	0	0
	0	0	0	.	6	0	0
	0	0	0	.	0	2	0
	0	0	0	.	0	0	1
<hr/>							
Total	5	7	8	.	6	2	1
<hr/>							

**Legend:**

H - Hundreds, T - Tens, O - Ones.

**Step 4**

Hence, the answer is **578.621**.

B) 273.492

**Step 1**

Let us first add the first three numbers which are not fractions:  $200 + 70 + 3 = 273$

**Step 2**

Let us next convert the last three fractions to decimals:

$$\frac{4}{10} = 0.4$$

$$\frac{9}{100} = 0.09$$

$$\frac{2}{1000} = 0.002$$

**Step 3**

Let's use the place value chart to add the whole numbers and the decimal numbers as:

	Ones	Tenths	Hundredths	Thousandths			
	H	T	O	.	(1/10)	(1/100)	(1/1000)
	2	7	3	.	0	0	0
	0	0	0	.	4	0	0
	0	0	0	.	0	9	0
	0	0	0	.	0	0	2
<hr/>							
Total	2	7	3	.	4	9	2
<hr/>							

**Legend:**

H - Hundreds, T - Tens, O - Ones.

**Step 4**

Hence, the answer is **273.492**.

(9) 620 km

**Step 1**

Distance already traveled by the Daria = 380 kms

**Step 2**

Journey remaining = 62 %

Journey traveled so far =  $100 - 62 = 38$  %

**Step 3**

Therefore, 38% of total distance equals 380 kms

**Step 4**

$$100\% \text{ of distance equals } = \frac{380 \times 100}{38}$$

= 1000 km = Total Distance

**Step 5**

therefore, the remaining distance to be traveled by Daria = Total distance - distance already traveled

=  $1000 - 380$  km

= 620 km

**Step 6**

Therefore, **620** km is still have to traveled by Daria.

(10)  $\frac{1}{11}$

**Step 1**

We know that  $19\frac{6}{11}$  means:

$$19 + \frac{6}{11},$$

$$\text{or } 19 + 6 \times \left(\frac{1}{11}\right).$$

**Step 2**

Right hand side of the equation is:  $19 + (\heartsuit + \heartsuit + \heartsuit + \heartsuit + \heartsuit + \heartsuit)$ , or  $19 + (6 \times \heartsuit)$ .

**Step 3**

The equation can also be written as  $19 + 6 \times \left(\frac{1}{11}\right) = 19 + (6 \times \heartsuit)$ .

**Step 4**

This clearly gives us  $\heartsuit = \frac{1}{11}$

(11) 2

**Step 1**

The numbers which are divisible by any number other than 1 or itself are called composite numbers.

**Step 2**

So, any number which has more than two factors is a composite number.



(12) 1

**Step 1**

The smallest 6 digit number = 100000

**Step 2**

The largest 5 digit number = 99999

**Step 3**

Difference between them = The smallest 6 digit number - The largest 5 digit number  
= 100000 - 99999  
= 1

**Step 4**

Therefore, the difference between the smallest 6 digit number and the largest 5 digit number is **1**.

(13) 1020

**Step 1**

For a number to be divisible by 2, 3, 4, 5 and 6, it has to be divisible by the LCM of the given numbers.

**Step 2**

The LCM of 2, 3, 4, 5 and 6 is 60. This means we have to find the smallest four digit number divisible by 60.

**Step 3**

The smallest four digit number is 1000. On dividing it by 60 we get 16 as the quotient and 40 as remainder.

**Step 4**

This means, the number should be  $60 - 40 = 20$  more than 1000, or  $1000 + 20 = \mathbf{1020}$ .

(14) even

**Step 1**

Remember the following rules of addition:

1. Sum of two even numbers is an even number.
2. Sum of two odd numbers is an even number.
3. Sum of an odd and an even number is an odd number.

**Step 2**

Thus, if we add an even number and an even number, we get an even number.

**Step 1**

To compare the two given large numbers, the following steps can be used:

- a. First compare the number of digits. The number with more digits will be larger.
- b. If the number of digits is same, compare the most significant (left-most) digit. The number with the higher digit at this place will be larger.
- c. If the left-most digits are same, compare the next digit (towards right), until we find a case where the digits differ.

**Step 2**

Let us first compare the number of digits in 2848 and 96300.

Number of digits in 2848 = 4

Number of digits in 96300 = 5

**Step 3**

Since 2848 has fewer digits than 96300.

$2848 < 96300$