**RS Aggarwal Solutions for Class 10 Maths Chapter 1 Exercise 1.3:** The RS Aggarwal Solutions for Class 10 Maths Chapter 1, Exercise 1.3, help students understand real numbers better. This exercise teaches how to use the Euclidean algorithm to find the highest common factor (HCF) of numbers. It also covers the properties and operations of real numbers.

With clear, step-by-step solutions provided by Physics Wallah's experts, students can improve their math skills and feel more confident in solving these types of problems. These solutions make learning easier and build a strong foundation in mathematics.

# RS Aggarwal Solutions for Class 10 Maths Chapter 1 Exercise 1.3 Overview

The RS Aggarwal Solutions for Class 10 Maths Chapter 1, Exercise 1.3, are created by subject experts from Physics Wallah. These solutions are designed to help students understand real numbers better.

With clear explanations and easy-to-follow steps, these solutions aim to improve students' math skills and make learning more effective and enjoyable.

# RS Aggarwal Solutions for Class 10 Maths Chapter 1 Real Numbers Exercise 1.3 PDF

The PDF link provided below contains the RS Aggarwal Solutions for Class 10 Maths Chapter 1, Exercise 1.3.

This PDF is invaluable for students looking to strengthen their math skills and prepare effectively for exams.

**RS Aggarwal Solutions for Class 10 Maths Chapter 1 Real Numbers Exercise 1.3 PDF**

# RS Aggarwal Solutions for Class 10 Maths Chapter 1 Exercise 1.3

Here we have provided RS Aggarwal Solutions for Class 10 Maths Chapter 1 Exercise 1.3 for the ease of students so that they can prepare better for their exams.

**Question 1.**

**Solution:**

$\frac{p}{q}$ is a terminating decimal if $q$ is not a factor of $p$ and $q = 2^m \times 5^n$, where $m$ and $n$ are non-negative integers. Now,

(i) $\frac{23}{(2^3 \times 5^2)}$

It is terminating decimal as
$q = 2^3 \times 5^2 =$ is in the form of $2^m \times 5^n$

Now, $\frac{23}{8 \times 25} = \frac{23}{200} = \frac{23 \times 5}{200 \times 5}$

$= \frac{115}{1000} = 0.115$

(ii) $\frac{24}{125} = \frac{24}{5^3}$

$\because q = 5^3 =$ which is in the form of $2^m \times 5^n$

$\therefore$ It is terminating decimal.

Now, $\frac{24}{125} = \frac{24 \times 8}{125 \times 8} = \frac{192}{1000} = 0.192$

(*iii*) $\frac{171}{800} = \frac{171}{2^5 \times 5^2}$

| | |
|---|---|
| 2 | 800 |
| 2 | 400 |
| 2 | 200 |
| 2 | 100 |
| 2 | 50 |
| 5 | 25 |
| 5 | 5 |
| | 1 |

$q = 2^5 \times 5^2$ which is in form of $2^m \times 5^n$

$\therefore$ $\frac{171}{800}$ is terminating decimal.

Now, $\frac{171}{800} = \frac{171 \times 125}{800 \times 125}$

$= \frac{21375}{100000} = 0.21375$

(iv) $\frac{15}{1600} = \frac{15 \div 5}{1600 \div 5} = \frac{3}{320}$

$$\begin{array}{r|l} 2 & 320 \\ \hline 2 & 160 \\ \hline 2 & 80 \\ \hline 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$= \frac{3}{2^6 \times 5^1}$

$\because q = \frac{3}{2^6 \times 5^1}$ which is in the form of $2^m \times 5^n$

$\therefore$ It is terminating decimal.

Now, $\frac{3}{320} = \frac{3 \times 3125}{320 \times 3125}$

$= \frac{9375}{1000000} = 0.009375$

**Question 1.**

**Solution:**
(i) 36, 84

| | |
|---|---|
| 2 | 36 |
| 2 | 18 |
| 3 | 9 |
| 3 | 3 |
| | 1 |

| | |
|---|---|
| 2 | 84 |
| 2 | 42 |
| 3 | 21 |
| 7 | 7 |
| | 1 |

$36 = 2 \times 2 \times 3 \times 3 = 2^2 \times 3^2$
$84 = 2 \times 2 \times 3 \times 7 = 2^2 \times 3 \times 7$
$HCF = 2^2 \times 3 = 2 \times 2 \times 3 = 12$
$LCM = 2^2 \times 3^2 \times 7 = 2 \times 2 \times 3 \times 3 \times 7 = 252$
Now $HCF \times LCM = 12 \times 252 = 3024$
and product of number $= 36 \times 84 = 3024$
$HCF \times LCM$ = Product of given two numbers.

(ii) 23, 31
$23 = 1 \times 23$
$31 = 1 \times 31$
HCF= 1
and $LCM = 23 \times 31 = 713$
Now $HCF \times LCM = 1 \times 713 = 713$

(vi) $\frac{19}{3125} = \frac{19}{5^5}$

$$\begin{array}{r|l} 5 & 3125 \\ \hline 5 & 625 \\ \hline 5 & 125 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$\because$ $q$ is $5^5$ which is in the form of $2^m \times 5^n$

$\therefore$ It is terminating decimal.

Now, $\frac{19}{3125} = \frac{19 \times 320}{3125 \times 320}$

$= \frac{608}{100000} = 0.00608$

**Question 2.**

**Solution:**

$\frac{p}{q}$ is nonterminating repeating decimal of $q \neq 2^m \times 5^n$ where $m$ and $n$ are non-negative integers. Now,

(i) $\frac{11}{(2^3 \times 3)}$

Here, $q$ is not in the form of $2^m \times 5^n$

$\therefore$ $\frac{11}{2^3 \times 3}$ is nonterminating repeating decimal.

(vi) $\frac{19}{3125} = \frac{19}{5^5}$

| | |
|---|---|
| 5 | 3125 |
| 5 | 625 |
| 5 | 125 |
| 5 | 25 |
| 5 | 5 |
| | 1 |

$\because$ $q$ is $5^5$ which is in the form of $2^m \times 5^n$

$\therefore$ It is terminating decimal.

Now, $\frac{19}{3125} = \frac{19 \times 320}{3125 \times 320}$

$= \frac{608}{100000} = 0.00608$

**Question 2.**

**Solution:**

$\frac{p}{q}$ is nonterminating repeating decimal of

$q \neq 2^m \times 5^n$ where $m$ and $n$ are non-negative integers. Now,

(i) $\frac{11}{(2^3 \times 3)}$

Here, $q$ is not in the form of $2^m \times 5^n$

$\therefore$ $\frac{11}{2^3 \times 3}$ is nonterminating repeating decimal.

(ii) $\frac{73}{(2^2 \times 3^3 \times 5)}$

Here, $q$ is $2^2 \times 3^3 \times 5$ which is not in the form of $2^m \times 5^n$

$\therefore$ It is nonterminating repeating decimal.

(iii) $\frac{129}{(2^2 \times 5^3 \times 7^2)}$

Here, $q$ is $2^2 \times 5^3 \times 7^2$ which is not in the form of $2^m \times 5^n$

$\therefore$ It is nonterminating repeating decimal.

(iv) $\frac{9}{35} = \frac{9}{5 \times 7}$

Here, $q$ is $5 \times 7$ which is not in the form of $2^m \times 5^n$

$\therefore$ It is nonterminating repeating decimal.

(v) $\frac{77}{210} = \frac{77 \div 7}{210 \div 7} = \frac{11}{30} = \frac{11}{2 \times 3 \times 5}$

Here, $q$ is $2 \times 3 \times 5$ which is not in the form of $2^m \times 5^n$

$\therefore$ It is nonterminating repeating decimal.

(*vi*) $\frac{32}{147} = \frac{32}{3 \times 7^2}$

Here, $q$ is $3 \times 7^2$ which is not in the form of $2^m \times 5^n$

$\therefore$ It is nonterminating repeating decimal.

(*vii*) $\frac{29}{343} = \frac{29}{7^3}$

| | |
|---|---|
| 7 | 343 |
| 7 | 49 |
| 7 | 7 |
| | 1 |

Here, $q$ is $7^3$ which is not in the form of $2^m \times 5^n$

$\therefore$ It is nonterminating repeating decimal.

(*viii*) $\frac{64}{455} = \frac{64}{5 \times 7 \times 13}$

| | |
|---|---|
| 5 | 455 |
| 7 | 91 |
| 13 | 13 |
| | 1 |

Here $q$ is $5 \times 7 \times 13$ which is not in the form of $2^m \times 5^n$

$\therefore$ It is nonterminating repeating decimal.

**Question 3.**

**Solution:**

(*i*) $0.\bar{8}$

Let $x = 0.\bar{8} = 0.888...$

$10x = 8.888...$

Subtracting, we get

$9x = 8 \Rightarrow x = \frac{8}{9}$.

$\therefore\ 0.\bar{8} = \frac{8}{9}$

(*ii*) $2.\bar{4}$

Let $x = 2.\bar{4} = 2.444...$

$10x = 24.444...$

Subtracting, we get

$9x = 22 \Rightarrow x = \frac{22}{9} = 2\frac{4}{9}$

$\therefore\ 2.\bar{4} = 2\frac{4}{9}$

(*iii*) $0.\overline{24}$

Let $x = \overline{24}$

$= 0.242424...$

then $100x = 24.242424...$

Subtracting, we get

$99x = 24 \Rightarrow x = \frac{24}{99} = \frac{8}{33}$

$\therefore\ 0.\overline{24} = \frac{8}{33}$

(*iv*) $0.1\overline{2}$

Let $x = 0.1\overline{2}$

$= 0.1222...$

then $10x = 1.222...$

and $100x = 12.222...$

Subtracting, we get

$90x = 11 \Rightarrow x = \frac{11}{90}$

$0.1\overline{2} = \frac{11}{90}$

(*v*) $2.2\overline{4}$

Let $x = 2.2\overline{4}$

$= 2.2444...$

then $10x = 22.444...$

and $100x = 224.444...$

Subtracting, we get

$$90x = 202 \Rightarrow x = \frac{202}{90}$$

$$\Rightarrow x = \frac{101}{45}$$

$$\therefore 2.2\bar{4} = \frac{101}{45}$$

(vi) $0.\overline{365}$

Let $x = 0.\overline{365}$

$= 0.365365365...$

Then $1000x = 365.365365365...$

Subtracting, we get

$$999x = 365 \Rightarrow x = \frac{365}{999}$$

## Benefits of RS Aggarwal Solutions for Class 10 Maths Chapter 1 Exercise 1.3

- **Concept Clarity**: Provides clear explanations and step-by-step solutions that help students understand real numbers and the Euclidean algorithm for finding HCF.
- **Problem-solving Skills**: Enhances students' ability to solve mathematical problems related to real numbers efficiently.
- **Exam Preparation**: Helps students prepare thoroughly for exams by covering essential topics and providing practice exercises.

- **Confidence Building**: Boosts confidence by improving comprehension of mathematical concepts and providing solutions to complex problems.
- **Accessible Learning**: Makes learning easier with user-friendly explanations and solutions, aiding students in grasping difficult concepts effectively.