



Squares and Square Roots Ex 3.3 Q1

Answer :

(i) Here, $a = 2$, $b = 5$

Step 1. Make 3 columns and write the values of a^2 , $2 \times a \times b$, and b^2 in these columns.

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
4	20	25

Step 2. Underline the unit digit of b^2 (in Column III) and add its tens digit, if any, with $2 \times a \times b$ (in Column II).

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
4	$20 + 2$	<u>25</u>
	22	

Step 3. Underline the unit digit in Column II and add the number formed by the tens and other digits, if any, with a^2 in Column I.

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
$4 + 2$	$20 + 2$	<u>25</u>
6	<u>22</u>	

Step 4. Underline the number in Column I.

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
$4 + 2$	$20 + 2$	<u>25</u>
<u>6</u>	<u>22</u>	

Step 5. Write the underlined digits at the bottom of each column to obtain the square of the given number.

In this case, we have:

$$25^2 = 625$$

Using multiplication:

$$\begin{array}{r} 25 \\ \times 25 \\ \hline 125 \\ 50 \\ \hline 625 \end{array}$$

This matches with the result obtained by the column method.

(ii) Here, $a = 3$, $b = 7$

Step 1. Make 3 columns and write the values of a^2 , $2 \times a \times b$, and b^2 in these columns.

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
9	42	49

Step 2. Underline the unit digit of b^2 (in Column III) and add its tens digit, if any, with $2 \times a \times b$ (in Column II).

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
9	$42 + 4$	<u>49</u>
	46	

Step 3. Underline the unit digit in Column II and add the number formed by the tens and other digits, if any, with a^2 in Column I.

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
$9 + 4$	$42 + 4$	<u>49</u>
13	<u>46</u>	

Step 4. Underline the number in Column I.

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
$9 + 4$	$42 + 4$	<u>49</u>
<u>13</u>	<u>46</u>	

Step 5. Write the underlined digits at the bottom of each column to obtain the square of the given number.

In this case, we have:

$$37^2 = 1369$$

Using multiplication:

$$\begin{array}{r} 37 \\ \times 37 \\ \hline 259 \\ 111 \\ \hline 1369 \end{array}$$

This matches with the result obtained using the column method.

(iii) Here, $a = 5$, $b = 4$

Step 1. Make 3 columns and write the values of a^2 , $2 \times a \times b$ and b^2 in these columns.

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
25	40	16

Step 2. Underline the unit digit of b^2 (in Column III) and add its tens digit, if any, with $2 \times a \times b$ (in Column II).

Column I	Column II	Column III
a^2	$2 \times a \times b$	b^2
25	$40 + 1$	<u>16</u>
	41	

***** END *****