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SQUARES AND SQUARE ROOTS

PERIOD 3

SUBJECT : MATHEMATICS
CHAPTER NUMBER: 3
CHAPTER NAME : SQUARES AND SQUARE ROOTS

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

Learning outcome

- Students will be able to **know and write** the solutions and way of presenting the additional questions given to solve.

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Find the square root of 0.2916

	0.54
0.5	0.2916
	0.25
0.204	416
	416
	x

Required square root
=0.54

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(iii) $\sqrt{108 \times 2028} = \sqrt{219024}$

	468
4	219024
	16
86	590
	516
928	7424
	7424
	×

Hence, $\sqrt{108 \times 2028} = 468$

OR

$\sqrt{108 \times 2028}$

2	108
2	54
3	27
3	9
3	3
	1

2	2028
2	1014
3	507
13	169
13	13
	1

$= \sqrt{2 \times 2 \times 3 \times 3 \times 3 \times 2 \times 2 \times 3 \times 13 \times 13}$

$= \sqrt{2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 13 \times 13}$

$= 2 \times 2 \times 3 \times 13 = 468$

Find the least number which must be subtracted from 2037 so that the resulting number is a perfect square.

Sol: Clearly; if 12 is subtracted from 2037, the remainder will be a perfect square.

$\therefore\ 2037 - 12 = 2035$ and $\sqrt{2035} = 45$

$$
\begin{array}{r|l}
 & 45 \\
\hline
4 & 2037 \\
 & 49 \\
\hline
85 & 437 \\
 & 425 \\
\hline
 & 12
\end{array}
$$

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Find the least number which must be added to 5483 so that the resulting number is a perfect square.

Sol: Clearly, 5483 is greater than 74^2.

$$
\begin{array}{r|l}
 & 74 \\
\hline
9 & 5483 \\
 & 49 \\
\hline
144 & 583 \\
 & 576 \\
\hline
 & 7
\end{array}
$$

$\therefore$ On adding the required number to 5483, we shall be getting 75^2 *i.e.* 5625.

Hence, the required number = 5625 – 5483

= 142

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Home assignment

Exercise 3(B) -9 to 14

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THANKING YOU

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