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## Exercise 6.4

### Question 5:

Find the least number which must be added to each of the following numbers so as to get a perfect square. Also, find the square root of the perfect square so obtained:

- |           |           |
|-----------|-----------|
| (i) 525   | (ii) 1750 |
| (iii) 252 | (iv) 1825 |
| (v) 6412  |           |

### Answer 5:

- (i) 525  
 Since remainder is 41. Therefore  $22^2 < 525$   
 Next perfect square number  $23^2 = 529$   
 Hence, number to be added =  $529 - 525 = 4$   
 $\therefore 525 + 4 = 529$   
 Hence, the square root of 529 is 23.

	22
2	$\overline{5\ 25}$
	- 4
42	125
	- 84
	41

- (ii) 1750  
 Since remainder is 69. Therefore  $41^2 < 1750$   
 Next perfect square number  $42^2 = 1764$   
 Hence, number to be added =  $1764 - 1750 = 14$   
 $\therefore 1750 + 14 = 1764$   
 Hence, the square root of 1764 is 42.

	41
4	$\overline{17\ 50}$
	- 16
81	150
	- 81
	69

- (iii) 252  
 Since remainder is 27. Therefore  $15^2 < 252$   
 Next perfect square number  $16^2 = 256$   
 Hence, number to be added =  $256 - 252 = 4$   
 $\therefore 252 + 4 = 256$   
 Hence, the square root of 256 is 16.

	15
1	$\overline{2\ 52}$
	- 1
25	152
	- 125
	27

- (iv) 1825  
 Since remainder is 61. Therefore  $42^2 < 1825$   
 Next perfect square number  $43^2 = 1849$   
 Hence, number to be added =  $1849 - 1825 = 24$   
 $\therefore 1825 + 24 = 1849$   
 Hence, the square root of 1849 is 43.

	4
4	$\overline{18\ 25}$
	- 16
82	225
	- 164
	61

- (v) 6412  
 Since remainder is 12. Therefore  $80^2 < 6412$   
 Next perfect square number  $81^2 = 6561$   
 Hence, number to be added =  $6561 - 6412 = 149$   
 $\therefore 6412 + 149 = 6561$   
 Hence, the square root of 6561 is 81.

	80
8	$\overline{64\ 12}$
	- 64
160	0012
	- 0000