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(Affiliated to CBSE up to +2 Level)

CLASS: VIII **SUB.: MATHS (NCERT BASED)** **DATE: 28 -07-2020**

REVISION (SQUARE AND SQUARE ROOTS)

Very Short Answer Type

Q1. Find the perfect square numbers between 40 and 50.

Solution: Perfect square numbers between 40 and 50 = 49.

Q 2. Which of the following 24^2, 49^2, 77^2, 131^2 or 189^2 end with digit 1?

Solution: Only 49^2, 131^2 and 189^2 end with digit 1.

Q 3.Find the value of each of the following without calculating squares.

(i) $27^2 - 26^2$ (ii) $118^2 - 117^2$

Solution: (i) $27^2 - 26^2 = (27 + 26)(27 - 26) = 53 \times 1 = 53$

Q 4. Write each of the following numbers as difference of the square of two consecutive natural numbers.

(i) 49 (ii) 75 (iii) 125

Solution:(i) $49 = 2 \times 24 +$

$49 = 25^2 - 24^2$

Q 5.Write down the following as sum of odd numbers.

(i) 7^2 (ii) 9^2

Solution:(i) 7^2 = Sum of first 7 odd numbers = 1 + 3 + 5 + 7 + 9 + 11 + 13

Q 6.Express the following as the sum of two consecutive integers.

(i) 15^2 (ii) 19^2

Solution: $15^2 = 225 = 112 + 113$

$\because 112 = \frac{15^2-1}{2}$ *and* $113 = \frac{15^2+1}{2}$

Q 7. Find the product of the following:

(i) 23 × 25 (ii) 41 × 43

Solution: (i) $23 \times 25 = (24 - 1)(24 + 1) = 24^2 - 1 = 576 - 1 = 575$

Q 9.Check whether (6, 8, 10) is a Pythagorean triplet.

Solution: 2m, $m^2 - 1$ and $m^2 + 1$ represent the Pythagorean triplet.

Let $2m = 6 \Rightarrow m = 3$

$m^2 - 1 = (3)^2 - 1 = 9 - 1 = 8$

and $m^2 + 1 = (3)^2 + 1 = 9 + 1 = 10$

Hence (6, 8, 10) is a Pythagorean triplet.

Alternative Method:

$(6)^2 + (8)^2 = 36 + 64 = 100 = (10)^2$

$\Rightarrow$ (6, 8, 10) is a Pythagorean triplet.

Solve the blue color questions given above