

Board – CBSE

Class – 8th

Topic – Playing with Numbers(Problems for Practice)

Q.1 Find the other two numbers for each of the numbers given below, making the three numbers Pythagorean triplets.

- (a) 6 (b) 15 (c) 50 (d) 3

Q.2 Without adding, find the value of the following -

- (a) $1 + 3 + 5$
(b) $1 + 3 + 5 + 7 + 9 + 11$
(c) $1 + 3 + 5 + 7 + 9$
(d) $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17$

Q.3 Find the cube roots of the following numbers by successive subtraction of numbers:

1, 7, 19, 37, 61, 91, 127, 169, 217, 271, 331, 397,.....

- (a) 125 (b) 343 (c) 1728 (d) 512 (e) 1331

Q.4 Using the method of successive subtraction, examine if the following numbers are perfect cubes. If not, find the smallest number which must be subtracted from the numbers so as to make them perfect cubes. Also, find their cube roots.

- (a) 70 (b) 221 (c) 735 (d) 1011 (e) 349

Q.5 Solve and find values of a, b, c

- (a) $4a + 3(6 - 2) + 25 \div 5 = 21$
(b) $(15 \div 5) + 3 \times 4 - b = 17$
(c) $a(18 + 3) + 4 \times 5 \div 2 - 7 = 45$
(d) $2 \times 3 + 14 \div 7 + 6 - 7c = 35$

$$(e) 48 \div 12 \times \left\{ \frac{9}{8} \text{ of } \frac{4}{3} \div \frac{3}{4} \text{ of } \frac{2}{3} + a \right\} = 6$$

$$(f) 10 - [9 - \{8 - (7 - 6)\}] - c = 3$$

(Ques. Q.6 to Q.9) Find a, b, c in the following.

Q.6 (a) $7a + 43b + c = 518$, where a, b, c is in the units place and $c < a < b$.

(b) $a36 + b8 + c = 317$, where a is in the hundred-digit, b is the tens digit and c is the ones digit.

Q.7 $a38 + b3 + 5c = 745$

Q.8 $a96 - 43c + 402 - b2 = 814$

Q.9 $a62 - 473 + 2b6 - 105 + 43c = 1106$

Q.10 Fill in the blanks.

(a) The square of any natural number n can be written as the sum of ____ odd numbers.

(b) When divided by 3, a perfect square leaves a remainder of ____ or ____.

Q.11 Investigate the patterns.

$$1^3 + 2^3$$

$$1^3 + 2^3 + 3^3$$

Q.12 Create pattern.

Investigate what is

$$1 \times 2 \times 3 \times 4 + 1$$

$$2 \times 3 \times 4 \times 5 + 1$$

$$3 \times 4 \times 5 \times 6 + 1$$

Using this find value of a, b, c, d if

$$a \times b \times c \times d + 1 = 1681$$

Q.13 Find the values of unknowns.

$\begin{array}{r} 25x4 \\ + y528 \\ \hline 12102 \end{array}$	$\begin{array}{r} 4pq \\ + 768 \\ \hline 1r20 \end{array}$	$\begin{array}{r} b4a \\ - 685 \\ \hline 2c8 \end{array}$	$\begin{array}{r} 2a42 \\ \times 2a \\ \hline 1b8b2 \\ 52840 \\ \hline a8a92 \end{array}$
(a)	(b)	(c)	(d)