

Some Major Skills & Focus Areas

In A Textbook of Mathematics 6–8

“**Creativity** refers to new ways of seeing or doing things and includes generating new ideas, flexibility, originality, and building on others’ ideas.”

– 21st Century Skills Handbook by CBSE



Creativity

- BK 6** Activities in pp. 268 (Ch 4), 272 (Ch 7), 273 (Ch 10), 275 (Ch 14)
- BK 7** Activities in pp. 186, 297 (Ch 6), 300 (Ch 13) 302
- BK 8** Activities in pp. 313, 314, 317 (Ch 11), 318 (Ch 12)



Critical Thinking

All HOTS questions & puzzles:

- BK 6** pp. 179, 200, 206, 240 (Puzzle)
- BK 7** pp. 14, 31, 95, 268 (Puzzle), 271 (Magic Square)
- BK 8** pp. 32, 85, 135, 238, 287



Collaboration

- BK 6** pp. 269 (Ac 2), 271 (Ch 6), 274 (Ac 2)
- BK 7** pp. 108 (Ac), 111 (Ac), 298 (Ac)
- BK 8** pp. 183 (Ac), 206 (Ac), 281 (Project), 316 (Ch 6 & 9)

“**Collaboration** is the ability to effectively work together with others.”

– 21st Century Skills Handbook by CBSE

2. Observe the following pattern.

$$2^3 - 1^3 = 1 + 2 \times 1 \times 3$$

$$3^3 - 2^3 = 1 + 3 \times 2 \times 3$$

$$4^3 - 3^3 = 1 + 4 \times 3 \times 3$$

Using the above pattern find the value of $89^3 - 88^3$.


PROJECT

1. Conduct a survey and collect data from 100 students of Class VIII of your school about their preference of activity among sports, music, dramatics, debating and painting. Prepare a frequency distribution table and answer the following questions.
 - i. Which activity is preferred by most number of students?
 - ii. How many students prefer sports over music?
 - iii. Which activity is preferred by least number of students?
 - iv. Is there any activity which is liked by equal number of students?

281

BK 8, p. 281

BK 6, p. 206 (HOTS)

17. A box contains oranges and bananas. If the ratio of the number of oranges to bananas is 3:5 and the number of oranges is 21, find the number of bananas.
18. The ratio of metal A and metal B in an alloy is 5:7. Find the weight of metal A in 14.4 g of the alloy.
19.  The flour in a bag is divided into three portions in the ratio 2:5:7. If the smallest portion weighs 40 kg, how much heavier is the largest portion than the smallest portion?
20. A box contains pencils, sketch pens and ink pens in the ratio 5:8:3. If the number of sketch pens is 12 more than the number of pencils, find the number of ink pens in the box.

1. Find the ratio of the number of prime numbers to the number of composite numbers between the numbers 1 and 20.
2. The ratio of students in three sections A, B and C of class VI is 2:3:4. The total number of students in these three sections is 270. From section C, if 20 students are shifted to section A and 10 to section B, then what is the new ratio of the students in the three sections of class VI?
3. A total of ₹ 700 is divided among A, B and C such that the money received by A and B is in the ratio 2:3 and the money received by C and B is in the ratio 5:4. Find the amount received by each of them.

Critical Thinking is the ability to think clearly and rationally and understand the logical connections between ideas; to analyze facts and come to a conclusion.

PROBABILITY

There are many situations in life, when we are unable to predict the exact result and we end up making statements which use the terms *likely*, *most probably*, *chance*, *possible*, *may*, etc.

For example:

1. It is *likely* to rain today.
2. *Chances* of the Indian team winning the World Cup are very high.
3. Amit will *most probably* be chosen for the football team.

All these statements convey an uncertainty about the happening or occurrence of the events in question. The methodology of measuring this element of uncertainty is provided by a branch of mathematics which deals with the ‘theory of probability’.

SOME TERMS RELATED TO PROBABILITY

Outcome: Any one of the possible results of some activity is known as its outcome.
Experiment: An operation which yields well-defined outcomes is called an experiment.

BK 7, p. 65

Conceptual Understanding refers to an integrated and functional grasp of ideas.



Problem-solving

- BK 6** pp. 8 (Ex 1A), 29 (Mental Maths), 170 (Checkpoint) 259
- BK 7** pp. 27 (Ex 2A), 47, 68, 95, 282
- BK 8** pp. 125 (Ex 7B), 141 (Ex 8B), 183 (Checkpoint), 215 (Mental Maths), 301

Ch = Chapter; Ac = Activity

SKILLS – page 2

FOCUS AREAS – page 3

