Class VII maths

Number theory

1. **A.1**

Prime or composite

2. **A.2**

Prime factorisation

3. **A.3**

Multiplicative inverses

4. **A.4**

Divisibility rules

5. **A.5**

Highest common factor

6. **A.6**

Lowest common multiple

7. **A.7**

HCF and LCM: word problems

8. **A.8**

Scientific notation

9. **A.9**

Compare numbers written in scientific notation

10. **A.10**

Classify numbers

Integers

1. **B.1**

Understanding integers

2. **B.2**

Integers on number lines

3. **B.3**

Graph integers on horizontal and vertical number lines

4. **B.4**

Absolute value and opposite integers

5. **B.5**

Compare and order integers

Operations with integers

1. **C.1**

Integer addition and subtraction rules

2. **C.2**

Add and subtract integers using counters

3. **C.3**

Add and subtract integers

4. **C.4**

Complete addition and subtraction sentences with integers

5. **C.5**

Add and subtract integers: word problems

6. **C.6**

Integer multiplication and division rules

7. **C.7**

Multiply and divide integers

8. **C.8**

Complete multiplication and division sentences with integers

9. **C.9**

Evaluate numerical expressions involving integers

Decimals

1. **D.1**

Decimal numbers review

2. **D.2**

Compare and order decimals

3. **D.3**

Decimal number lines

4. **D.4**

Round decimals

Operations with decimals

1. **E.1**

Add and subtract decimals

2. **E.2**

Add and subtract decimals: word problems

3. **E.3**

Multiply decimals

4. **E.4**

Multiply decimals and whole numbers: word problems

5. **E.5**

Divide decimals

6. **E.6**

Divide decimals by whole numbers: word problems

7. **E.7**

Estimate sums, differences and products of decimals

8. **E.8**

Add, subtract, multiply and divide decimals: word problems

9. **E.9**

Multi-step inequalities with decimals

10. **E.10**

Maps with decimal distances

11. **E.11**

Evaluate numerical expressions involving decimals

Fractions and mixed numbers

1. **F.1**

Understanding fractions: word problems

2. **F.2**

Equivalent fractions

3. **F.3**

Write fractions in lowest terms

4. **F.4**

Fractions: word problems with graphs and tables

5. **F.5**

Lowest common denominator

6. **F.6**

Compare and order fractions

7. **F.7**

Compare fractions: word problems

8. **F.8**

Convert between mixed numbers and improper fractions

9. **F.9**

Compare mixed numbers and improper fractions

10. **F.10**

Round mixed numbers

Operations with fractions

1. **G.1**

Add and subtract fractions

2. **G.2**

Add and subtract fractions: word problems

3. **G.3**

Add and subtract mixed numbers

4. **G.4**

Add and subtract mixed numbers: word problems

5. **G.5**

Inequalities with addition and subtraction of fractions and mixed numbers

6. **G.6**

Estimate sums and differences of mixed numbers

7. **G.7**

Multiply fractions and whole numbers

8. **G.8**

Multiply two fractions using models

9. **G.9**

Multiply fractions

10. **G.10**

Multiply mixed numbers

11. **G.11**

Multiply fractions and mixed numbers: word problems

12. **G.12**

Divide whole numbers and unit fractions

13. **G.13**

Divide fractions

14. **G.14**

Divide mixed numbers

15. **G.15**

Divide fractions and mixed numbers: word problems

16. **G.16**

Estimate products and quotients of fractions and mixed numbers

17. **G.17**

Add, subtract, multiply and divide fractions and mixed numbers: word problems

18. **G.18**

Evaluate numerical expressions involving fractions

Rational numbers

1. **H.1**

Identify rational numbers

2. **H.2**

Convert between decimals and fractions or mixed numbers

3. **H.3**

Compare rational numbers

4. **H.4**

Put rational numbers in order

5. **H.5**

Add and subtract rational numbers

6. **H.6**

Apply addition and subtraction rules

7. **H.7**

Multiply and divide rational numbers

8. **H.8**

Apply multiplication and division rules

Exponents

1. **I.1**

Understanding exponents

2. **I.2**

Evaluate exponents

3. **I.3**

Solve equations with variable exponents

4. **I.4**

Exponents with negative bases

5. **I.5**

Exponents with decimal and fractional bases

6. **I.6**

Evaluate numerical expressions involving exponents

Ratios, rates and proportions

1. **J.1**

Understanding ratios

2. **J.2**

Identify equivalent ratios

3. **J.3**

Write an equivalent ratio

4. **J.4**

Equivalent ratios: word problems

5. **J.5**

Unit rates

6. **J.6**

Compare ratios: word problems

7. **J.7**

Scale drawings: word problems

8. **J.8**

Do the ratios form a proportion?

9. **J.9**

Do the ratios form a proportion: word problems

10. **J.10**

Solve proportions

11. **J.11**

Solve proportions: word problems

12. **J.12**

Estimate population size using proportions

13. **J.13**

Rate of change

14. **J.14**

Constant rate of change

Percents

1. **K.1**

What percentage is illustrated?

2. **K.2**

Convert between percents, fractions and decimals

3. **K.3**

Compare percents to fractions and decimals

4. **K.4**

Estimate percents of numbers

5. **K.5**

Percents of numbers and money amounts

6. **K.6**

Percents of numbers: word problems

7. **K.7**

Solve percent equations

8. **K.8**

Solve percent equations: word problems

Consumer maths

1. **L.1**

Add, subtract, multiply and divide money amounts: word problems

2. **L.2**

Price lists

3. **L.3**

Unit prices

4. **L.4**

Unit prices: find the total price

5. **L.5**

Percent of a number, discount and more

6. **L.6**

Find the percent: discount and mark-up

7. **L.7**

Sale prices: find the original price

8. **L.8**

Multi-step problems with percents

9. **L.9**

Estimate tips

10. **L.10**

Simple interest

Problem solving and estimation

1. **M.1**

Estimate to solve word problems

2. **M.2**

Multi-step word problems

3. **M.3**

Guess-and-check word problems

4. **M.4**

Use Venn diagrams to solve problems

5. **M.5**

Find the number of each type of coin

6. **M.6**

Elapsed time word problems

Units of measurement

1. **N.1**

Estimate metric measurements

2. **N.2**

Compare and convert metric units

3. **N.3**

Metric mixed units

4. **N.4**

Convert square and cubic units of length

5. **N.5**

Convert between cubic metres and litres

6. **N.6**

Precision

Number sequences

1. **O.1**

Identify arithmetic and geometric sequences

2. **O.2**

Arithmetic sequences

3. **O.3**

Geometric sequences

4. **O.4**

Number sequences: mixed review

5. **O.5**

Number sequences: word problems

6. **O.6**

Evaluate variable expressions for number sequences

7. **O.7**

Write variable expressions for arithmetic sequences

Expressions and properties

1. **P.1**

Write variable expressions

2. **P.2**

Write variable expressions: word problems

3. **P.3**

Evaluate linear expressions

4. **P.4**

Evaluate multi-variable expressions

5. **P.5**

Evaluate absolute value expressions

6. **P.6**

Evaluate nonlinear expressions

7. **P.7**

Identify terms and coefficients

8. **P.8**

Sort factors of expressions

9. **P.9**

Properties of addition and multiplication

10. **P.10**

Multiply using the distributive property

11. **P.11**

Solve equations using properties

12. **P.12**

Write equivalent expressions using properties

13. **P.13**

Add and subtract like terms

14. **P.14**

Add, subtract and multiply linear expressions

15. **P.15**

Factors of linear expressions

16. **P.16**

Identify equivalent linear expressions

One-variable equations

1. **Q.1**

Which x satisfies an equation?

2. **Q.2**

Write an equation from words

3. **Q.3**

Model and solve equations using algebra tiles

4. **Q.4**

Write and solve equations that represent diagrams

5. **Q.5**

Solve one-step equations

6. **Q.6**

Solve two-step equations

7. **Q.7**

Solve equations: word problems

8. **Q.8**

Solve equations involving like terms

9. **Q.9**

Solve equations: complete the solution

Two-dimensional figures

1. **R.1**

Identify and classify polygons

2. **R.2**

Name, measure and classify angles

3. **R.3**

Classify triangles

4. **R.4**

Identify trapeziums

5. **R.5**

Classify quadrilaterals

6. **R.6**

Graph triangles and quadrilaterals

7. **R.7**

Triangle angle-sum property

8. **R.8**

Exterior angle property

9. **R.9**

Find missing angles in triangles and quadrilaterals

10. **R.10**

Interior angles of polygons

11. **R.11**

Lines, line segments and half lines

12. **R.12**

Parallel, perpendicular and intersecting lines

13. **R.13**

Identify complementary, supplementary, vertical, adjacent and congruent angles

14. **R.14**

Find measures of complementary, supplementary, vertical and adjacent angles

15. **R.15**

Transversal of parallel lines

16. **R.16**

Find lengths and measures of bisected line segments and angles

17. **R.17**

Parts of a circle

18. **R.18**

Symmetry

Congruence and similarity

1. **S.1**

Similar and congruent figures

2. **S.2**

Side lengths and angle measures of congruent figures

3. **S.3**

Congruence statements and corresponding parts

4. **S.4**

Side lengths and angle measures of similar figures

5. **S.5**

Similar figures and indirect measurement

Constructions

1. **T.1**

Construct the midpoint or perpendicular bisector of a segment

2. **T.2**

Construct an angle bisector

3. **T.3**

Construct a perpendicular line

4. **T.4**

Construct parallel lines

5. **T.5**

Construct an equilateral triangle or regular hexagon

Pythagoras' theorem

1. **U.1**

Pythagoras' theorem: find the length of the hypotenuse

2. **U.2**

Pythagoras' theorem: find the missing leg length

3. **U.3**

Pythagoras' theorem: word problems

4. **U.4**

Converse of Pythagoras' theorem: is it a right triangle?

Three-dimensional figures

1. **V.1**

Bases of three-dimensional figures

2. **V.2**

Nets of three-dimensional figures

3. **V.3**

Front, side and top view

Geometric measurement

1. **W.1**

Perimeter

2. **W.2**

Area of rectangles and parallelograms

3. **W.3**

Area of triangles

4. **W.4**

Area and perimeter: word problems

5. **W.5**

Circles: calculate area, circumference, radius and diameter

6. **W.6**

Circles: word problems

7. **W.7**

Semicircles: calculate area, perimeter, radius and diameter

8. **W.8**

Quarter circles: calculate area, perimeter and radius

9. **W.9**

Area of compound figures with triangles, semicircles and quarter circles

10. **W.10**

Area between two shapes

11. **W.11**

Perimeter, area and volume: changes in scale

Data and graphs

1. **X.1**

Interpret tables

2. **X.2**

Interpret line plots

3. **X.3**

Create line plots

4. **X.4**

Interpret stem-and-leaf plots

5. **X.5**

Create stem-and-leaf plots

6. **X.6**

Interpret bar graphs

7. **X.7**

Create bar graphs

8. **X.8**

Interpret histograms

9. **X.9**

Create histograms

10. **X.10**

Create frequency charts

11. **X.11**

Interpret line graphs

12. **X.12**

Create line graphs

Statistics

1. **Y.1**

Calculate mean, median, mode and range

2. **Y.2**

Interpret charts to find mean, median, mode and range

3. **Y.3**

Mean, median, mode and range: find the missing number

4. **Y.4**

Changes in mean, median, mode and range

Probability

1. **Z.1**

Probability of simple events

2. **Z.2**

Probability of opposite, mutually exclusive and overlapping events

3. **Z.3**

Experimental probability

4. **Z.4**

Make predictions

5. **Z.5**

Compound events: find the number of outcomes

6. **Z.6**

Counting principle

Class VII English

Reading strategies

Main idea

1. **A.1**

Determine the main idea of a passage

Theme

1. **B.1**

Match the quotations with their themes

2. **B.2**

Determine the themes of short stories

Author's purpose and tone

1. **C.1**

Identify author's purpose

2. **C.2**

Which sentence is more formal?

3. **C.3**

Compare passages for tone

Text structure

1. **D.1**

Compare and contrast in informational texts

2. **D.2**

Match causes and effects in informational texts

3. **D.3**

Match problems with their solutions

4. **D.4**

Identify text structures

Literary devices

1. **E.1**

Interpret figures of speech

2. **E.2**

Classify figures of speech

3. **E.3**

Analyse the effects of figures of speech on meaning and tone

Analysing literature

1. **F.1**

Analyse short stories

Analysing informational texts

1. **G.1**

Read and understand informational passages

2. **G.2**

Trace an argument

Comparing texts

1. **H.1**

Compare two texts with different genres

Visual elements

1. **I.1**

Compare illustrations of literary and historical subjects

Writing strategies

Organising writing

1. **J.1**

Order topics from broadest to narrowest

2. **J.2**

Organise information by main idea

3. **J.3**

Transitions with conjunctive adverbs

Developing and supporting arguments

1. **K.1**

Distinguish facts from opinions

2. **K.2**

Choose evidence to support a claim

3. **K.3**

Identify supporting details in informational texts

4. **K.4**

Identify supporting details in literary texts

5. **K.5**

Identify counterclaims

Creative techniques

1. **L.1**

Use personification

Editing and revising

1. **M.1**

Use parallel structure

2. **M.2**

Remove redundant words or phrases

3. **M.3**

Use the correct frequently confused word

4. **M.4**

Correct errors with frequently confused words

5. **M.5**

Suggest appropriate revisions

Research skills

1. **N.1**

Identify plagiarism

Vocabulary

Prefixes and suffixes

1. **O.1**

Words with pre-

2. **O.2**

Words with re-

3. **O.3**

Words with sub-

4. **O.4**

Words with mis-

5. **O.5**

Words with un-, dis-, in-, im- and non-

6. **O.6**

Words with -ful

7. **O.7**

Words with -less

8. **O.8**

Words with -able and -ible

Greek and Latin roots

1. **P.1**

Use Greek and Latin roots as clues to the meanings of words

2. **P.2**

Use words as clues to the meanings of Greek and Latin roots

3. **P.3**

Determine the meanings of Greek and Latin roots

4. **P.4**

Determine the meanings of words with Greek and Latin roots

Synonyms and antonyms

1. **Q.1**

Choose the synonym

2. **Q.2**

Choose the antonym

Homophones

1. **R.1**

Use the correct homophone

2. **R.2**

Which definition matches the sentence?

3. **R.3**

Which sentence matches the definition?

Shades of meaning

1. **S.1**

Describe the difference between related words

2. **S.2**

Positive and negative connotation

Analogies

1. **T.1**

Analogies

2. **T.2**

Analogies: challenge

Context clues

1. **U.1**

Find words using context

2. **U.2**

Determine the meaning of words using synonyms in context

3. **U.3**

Determine the meaning of words using antonyms in context

4. **U.4**

Use context to identify the meaning of a word

Domain-specific vocabulary

1. **V.1**

Determine the meaning of domain-specific words with pictures

Reference skills

1. **W.1**

Alphabetical order

2. **W.2**

Use guide words

3. **W.3**

Use dictionary entries

4. **W.4**

Use dictionary definitions

5. **W.5**

Use thesaurus entries

Grammar and mechanics

Sentences, fragments and run-ons

1. **X.1**

Is the sentence declarative, interrogative, imperative or exclamatory?

2. **X.2**

Identify the complete subject or complete predicate of a sentence

3. **X.3**

Identify the simple subject or simple predicate of a sentence

4. **X.4**

Identify the compound subject or compound predicate of a sentence

5. **X.5**

Is it a complete sentence or a fragment?

6. **X.6**

Is it a complete sentence or a run-on?

7. **X.7**

Is it a complete sentence, a fragment or a run-on?

Phrases and clauses

1. **Y.1**

Is it a phrase or a clause?

2. **Y.2**

Identify appositives and appositive phrases

3. **Y.3**

Identify dependent and independent clauses

4. **Y.4**

Is the sentence simple, compound, complex or compound-complex?

5. **Y.5**

Combine sentences using relative clauses

Nouns

1. **Z.1**

Form and use plurals: review

2. **Z.2**

Form and use plurals of compound nouns

3. **Z.3**

Identify plurals, singular possessives and plural possessives

4. **Z.4**

Form the singular or plural possessive

5. **Z.5**

Identify and correct errors with plural and possessive nouns

Pronouns and antecedents

1. **AA.1**

Identify pronouns and their antecedents

2. **AA.2**

Use the pronoun that agrees with the antecedent

3. **AA.3**

Identify vague pronoun references

4. **AA.4**

Identify all of the possible antecedents

5. **AA.5**

Correct inappropriate shifts in pronoun number and person

Pronoun types

1. **BB.1**

Choose between subject and object pronouns

2. **BB.2**

Compound subjects and objects with 'I' and 'me'

3. **BB.3**

Compound subjects and objects with pronouns

4. **BB.4**

Choose between personal and reflexive pronouns

5. **BB.5**

Use reflexive pronouns

6. **BB.6**

Is the pronoun reflexive or intensive?

7. **BB.7**

Use relative pronouns: who and whom

8. **BB.8**

Use relative pronouns: who, whom, whose, which and that

Verb types

1. **CC.1**

Identify transitive and intransitive verbs

2. **CC.2**

Identify linking verbs, predicate adjectives and predicate nouns

Subject-verb agreement

1. **DD.1**

Correct errors with subject-verb agreement

2. **DD.2**

Correct errors with indefinite pronoun-verb agreement

3. **DD.3**

Use the correct verb – with compound subjects

Verb tense

1. **EE.1**

Irregular past tense: review

2. **EE.2**

Simple past, present and future tense: review

3. **EE.3**

Identify and correct inappropriate shifts in verb tense

4. **EE.4**

Form the progressive verb tenses

5. **EE.5**

Form the perfect verb tenses

Adjectives and adverbs

1. **FF.1**

Identify adjectives

2. **FF.2**

Order adjectives

3. **FF.3**

Identify adverbs

4. **FF.4**

Choose between adjectives and adverbs

5. **FF.5**

Is the word an adjective or adverb?

6. **FF.6**

Form and use comparative and superlative adjectives

7. **FF.7**

Good, better, best, bad, worse and worst

8. **FF.8**

Form and use comparative and superlative adverbs

9. **FF.9**

Well, better, best, badly, worse and worst

Prepositions

1. **GG.1**

Identify prepositional phrases

Direct and indirect objects

1. **HH.1**

Is it a direct object or an indirect object?

Conjunctions

1. **II.1**

Use the correct pair of correlative conjunctions

Misplaced modifiers

1. **JJ.1**

Misplaced modifiers with pictures

2. **JJ.2**

Select the misplaced or dangling modifier

3. **JJ.3**

Are the modifiers used correctly?

Restrictive and non-restrictive elements

1. **KK.1**

Commas with non-restrictive elements

Commas

1. **LL.1**

Commas with compound and complex sentences

2. **LL.2**

Commas with direct addresses, introductory words, interjections and interrupters

3. **LL.3**

Commas with coordinate adjectives

Semicolons, colons and commas

1. **MM.1**

Use semicolons and commas to separate clauses

2. **MM.2**

Use semicolons, colons and commas with lists

Dashes, hyphens and ellipses

1. **NN.1**

Use dashes

2. **NN.2**

Use hyphens in compound adjectives

3. **NN.3**

Decide whether ellipses are used appropriately

Capitalisation

1. **OO.1**

Correct capitalisation errors

2. **OO.2**

Capitalising titles

Formatting

1. **PP.1**

Formatting titles

2. **PP.2**

Formatting and capitalising titles: review