Seventh grade

Here is a list of all of the skills students learn in seventh grade! These skills are organized into categories, and you can move your mouse over any skill name to view a sample question. To start practicing, just click on any link. IXL will track your score, and the questions will automatically increase in difficulty as you improve!

Number theory

A.1Prime or composite

A.2Prime factorization

A.3Multiplicative inverses

A.4Divisibility rules

A.5Greatest common factor

A.6Least common multiple

A.7GCF and LCM: word problems

A.8Scientific notation

A.9Compare numbers written in scientific notation

A.10Classify numbers

Decimal numbers

B.1Decimal numbers review

B.2Compare and order decimals

B.3Decimal number lines

B.4Round decimals

Operations with decimals

C.1Add and subtract decimals

C.2Add and subtract decimals: word problems

C.3Multiply decimals

C.4Multiply decimals and whole numbers: word problems

C.5Divide decimals

C.6Divide decimals by whole numbers: word problems

C.7Estimate sums, differences, and products of decimals

C.8Add, subtract, multiply, and divide decimals: word problems

C.9Multi-step inequalities with decimals

C.10Maps with decimal distances

C.11Simplify expressions involving decimals

Integers

D.1Understanding integers

D.2Integers on number lines

D.3Graph integers on number lines

D.4Absolute value and opposite integers

D.5Compare and order integers

D.6Integer inequalities with absolute values

Operations with integers

E.1Integer addition and subtraction rules

E.2Add and subtract integers using counters

E.3Add and subtract integers

E.4Complete addition and subtraction sentences with integers

E.5Add and subtract integers: word problems

E.6Integer multiplication and division rules

E.7Multiply and divide integers

E.8Complete multiplication and division sentences with integers

E.9Simplify expressions involving integers

Fractions and mixed numbers

F.1Equivalent fractions

F.2Simplify fractions

F.3Understanding fractions

F.4Least common denominator

F.5Compare and order fractions

F.6Compare fractions: word problems

F.7Convert between mixed numbers and improper fractions

F.8Compare mixed numbers and improper fractions

F.9Round mixed numbers

Operations with fractions

G.1Add and subtract fractions

G.2Add and subtract fractions: word problems

G.3Add and subtract mixed numbers

G.4Add and subtract mixed numbers: word problems

G.5Inequalities with addition and subtraction of fractions and mixed numbers

G.6Estimate sums and differences of mixed numbers

G.7Multiply fractions and whole numbers

G.8Multiply two fractions using models

G.9Multiply fractions

G.10Multiply mixed numbers

G.11Multiply fractions and mixed numbers: word problems

G.12Divide fractions

G.13Divide mixed numbers

G.14Divide fractions and mixed numbers: word problems

G.15Estimate products and quotients of fractions and mixed numbers

G.16Add, subtract, multiply, and divide fractions and mixed numbers: word problems

G.17Maps with fractional distances

Rational numbers

H.1Identify rational numbers

H.2Convert between decimals and fractions or mixed numbers

H.3Absolute value of rational numbers

H.4Compare rational numbers

H.5Put rational numbers in order

H.6Add and subtract rational numbers

H.7Apply addition and subtraction rules

H.8Multiply and divide rational numbers

H.9Apply multiplication and division rules

Exponents and square roots

I.1Understanding exponents

I.2Evaluate exponents

I.3Exponents: solve for the variable

I.4Exponents with negative bases

I.5Exponents with decimal and fractional bases

I.6Understanding negative exponents

I.7Evaluate negative exponents

I.8Simplify expressions involving exponents

I.9Square roots of perfect squares

I.10Estimate square roots

Ratios and proportions

J.1Understanding ratios

J.2Equivalent ratios

J.3Equivalent ratios: word problems

J.4Compare ratios: word problems

J.5Unit rates

J.6Do the ratios form a proportion?

J.7Do the ratios form a proportion: word problems

J.8Solve proportions

J.9Solve proportions: word problems

J.10Estimate population size using proportions

J.11Rate of change

J.12Constant rate of change

J.13Scale drawings and scale factors

Percents

K.1What percentage is illustrated?

K.2Convert between percents, fractions, and decimals

K.3Compare percents to fractions and decimals

K.4Estimate percents of numbers

K.5Percents of numbers and money amounts

K.6Percents of numbers: word problems

K.7Solve percent equations

K.8Solve percent equations: word problems

K.9Percent of change

K.10Percent of change: word problems

Consumer math

L.1Add, subtract, multiply, and divide money amounts: word problems

L.2Price lists

L.3Unit prices

L.4Unit prices with unit conversions

L.5Unit prices: find the total price

L.6Percent of a number: tax, discount, and more

L.7Find the percent: tax, discount, and more

L.8Sale prices: find the original price

L.9Multi-step problems with percents

L.10Estimate tips

L.11Simple interest

L.12Compound interest

Problem solving and estimation

M.1Estimate to solve word problems

M.2Multi-step word problems

M.3Guess-and-check word problems

M.4Use Venn diagrams to solve problems

M.5Find the number of each type of coin

M.6Elapsed time word problems

Measurement

N.1Estimate customary measurements

N.2Estimate metric measurements

N.3Compare and convert customary units

N.4Mixed customary units

N.5Compare and convert metric units

N.6Convert between customary and metric systems

N.7Precision

N.8Celsius and Fahrenheit temperatures

Data and graphs

O.1Interpret tables

O.2Interpret line plots

O.3Create line plots

O.4Create and interpret line plots with fractions

O.5Interpret stem-and-leaf plots

O.6Interpret bar graphs

O.7Create bar graphs

O.8Interpret histograms

O.9Create histograms

O.10Create frequency charts

O.11Interpret circle graphs

O.12Circle graphs and central angles

O.13Interpret line graphs

O.14Create line graphs

O.15Interpret box-and-whisker plots

O.16Scatter plots

O.17Choose the best type of graph

Geometry

P.1Lines, line segments, and rays

P.2Parallel, perpendicular, intersecting

P.3Name, measure, and classify angles

P.4Identify complementary, supplementary, vertical, adjacent, and congruent angles

P.5Find measures of complementary, supplementary, vertical, and adjacent angles

P.6Transversal of parallel lines

P.7Classify triangles

P.8Classify quadrilaterals

P.9Find missing angles in triangles and quadrilaterals

P.10Identify and classify polygons

P.11Interior angles of polygons

P.12Similar and congruent figures

P.13Similar figures: side lengths and angle measures

P.14Similar figures and indirect measurement

P.15Congruent figures: side lengths and angle measures

P.16Congruence statements and corresponding parts

P.17Perimeter

P.18Area of rectangles and parallelograms

P.19Area of triangles and trapezoids

P.20Area and perimeter: word problems

P.21Parts of a circle

P.22Circles: calculate area, circumference, radius, and diameter

P.23Circles: word problems

P.24Find lengths and measures of bisected lines and angles

P.25Front, side, and top view

P.26Names and bases of 3-dimensional figures

P.27Nets of 3-dimensional figures

P.28Surface area

P.29Volume

P.30Perimeter, area, and volume: changes in scale

P.31Semicircles: calculate area, perimeter, radius, and diameter

P.32Quarter circles: calculate area, perimeter, and radius

P.33Area of compound figures with triangles, semicircles, and quarter circles

P.34Area between two shapes

Transformations

Q.1Identify reflections, rotations, and translations

Q.2Translations: graph the image

Q.3Translations: find the coordinates

Q.4Reflections: graph the image

Q.5Reflections: find the coordinates

Q.6Rotations: graph the image

Q.7Rotations: find the coordinates

Q.8Symmetry

Pythagorean Theorem

R.1Pythagorean theorem: find the length of the hypotenuse

R.2Pythagorean theorem: find the missing leg length

R.3Pythagorean theorem: word problems

R.4Converse of the Pythagorean theorem: is it a right triangle?

Coordinate graphs

S.1Points on coordinate graphs

S.2Quadrants and axes

S.3Coordinate graphs as maps

Number sequences

T.1Identify arithmetic and geometric sequences

T.2Arithmetic sequences

T.3Geometric sequences

T.4Number sequences: mixed review

T.5Number sequences: word problems

T.6Evaluate variable expressions for number sequences

T.7Write variable expressions for arithmetic sequences

Variable expressions

U.1Write variable expressions

U.2Evaluate single-variable expressions I

U.3Evaluate single-variable expressions II

U.4Evaluate multi-variable expressions

U.5Evaluate variable expressions for numerators and denominators

U.6Add and subtract like terms

Single-variable equations

V.1Does x satisfy the equation?

V.2Model and solve equations using algebra tiles

V.3Solve one-step linear equations

V.4Solve two-step linear equations

V.5Solve equations involving like terms

Inequalities

W.1Inequalities on number lines

W.2Solutions to variable inequalities

W.3Graph inequalities on number lines

W.4Solve one-step linear inequalities

W.5Graph solutions to one-step linear inequalities

W.6Solve two-step linear inequalities

W.7Graph solutions to two-step linear inequalities

Linear functions

X.1Identify proportional relationships

X.2Find the constant of variation

X.3Does (x, y) satisfy the equation?

X.4Evaluate a function

X.5Complete a function table

X.6Write a rule for a function table

X.7Find points on a function graph

X.8Graph a line from a function table

X.9Graph a line from an equation

X.10Linear function word problems

X.11Find the slope of a graph

X.12Find slope from two points

X.13Find a missing coordinate using slope

X.14Find slope from an equation

X.15Graph a line using slope

X.16Identify linear and nonlinear functions

Properties

Y.1Properties of addition and multiplication

Y.2Distributive property

Y.3Simplify variable expressions using properties

Y.4Solve equations using properties

Probability

Z.1Probability of simple events

Z.2Probability of opposite, mutually exclusive, and overlapping events

Z.3Experimental probability

Z.4Make predictions

Z.5Compound events: find the number of outcomes

Z.6Identify independent and dependent events

Z.7Probability of independent and dependent events

Z.8Factorials

Z.9Permutations

Z.10Counting principle

Z.11Combination and permutation notation

Statistics

AA.1Calculate mean, median, mode, and range

AA.2Interpret charts to find mean, median, mode, and range

AA.3Mean, median, mode, and range: find the missing number

AA.4Changes in mean, median, mode, and range

AA.5Identify representative, random, and biased samples