compare and order fractions, including fractions > 1

use common factors to simplify fractions; use common multiples to express fractions in the same denomination

---

order positive and negative integers, decimals and fractions

Equivalence

---

add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

multiply simple pairs of proper fractions, writing the answer in its simplest form

divide proper fractions by whole numbers

---

express one quantity as a fraction of another, where the fraction is less than 1 or greater than 1

---

calculate exactly with fractions

Fractions

---

solve problems which require answers to be rounded to specified degrees of accuracy	multiply one-digit numbers with up to two decimal places by whole numbers
use written division methods in cases where the answer has up to two decimal places	identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000

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order positive and negative integers, decimals and fractions

use standard units of mass, length, time, money and other measures (including standard compound measures) using decimal quantities where appropriate

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Decimals

---

solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison

(Ratio & Proportion)

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define percentage as 'number of parts per hundred'	interpret % and %e changes as a fraction or a decimal, and interpret these multiplicatively
express one quantity as a percentage of another	compare two quantities using percentages
solve problems involving percentage change, including percentage increase/decrease	

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work with percentages greater than 100%

solve problems involving percentage change, including original value problems, and simple interest including in financial mathematics

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Percentages

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use common factors to simplify fractions; use common multiples to express fractions in the same denomination

associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]

recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

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interpret fractions and percentages as operators

---

work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and 7/2 or 0.375 or 3/8)

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change recurring decimals into their corresponding fractions and vice versa

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FDP conversions

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solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

solve problems involving similar shapes where the scale factor is known or can be found

solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

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use ratio notation, including reduction to simplest form

divide a given quantity into two parts in a given part:part or part:whole ratio

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express a relationship between two quantities as a ratio or a fraction	understand and use proportion as equality of ratios
relate ratios to fractions and to linear functions	compare lengths, areas and volumes using ratio notation
use scale factors, scale diagrams and maps	identify and work with fractions in ratio problems

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solve problems involving direct and inverse proportion, including graphical and algebraic representations

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understand that X is inversely proportional to Y is equivalent to X is proportional to 1/Y	set up, solve and interpret the answers in growth and decay problems, including compound interest
interpret equations that describe direct and inverse proportion	recognise and interpret graphs that illustrate direct and inverse proportion

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construct equations that describe direct and inverse proportion

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Ratio and proportion

Fractions, Decimals, Percentages, Ratio and Proportion