

MULTIPLYING FRACTIONS

No common denominator required. Multiply straight across the numerators and denominators

$$\frac{A}{B} \times \frac{D}{C} = \frac{A \times D}{B \times C}$$



FRACTION DIVISION CAN BE REWRITTEN AS A MULTIPLICATION

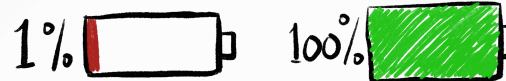
$$90 \div \frac{2}{3} = 90 \times \frac{3}{2}$$

$$= 270 \div 2$$

$$= 135$$

DECIMALS & PERCENTS: PARTS OF A WHOLE

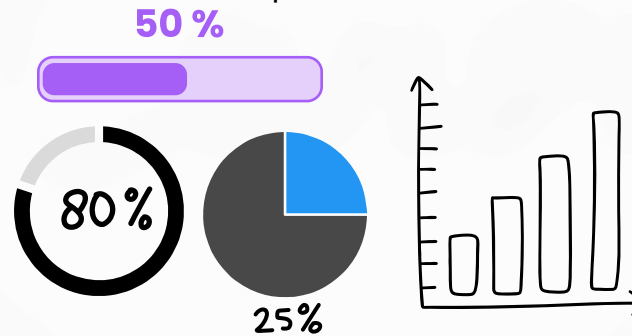
Modelling fractions, decimals & percents includes various graphs and and scale models at this level..



$$10\% \times 50 = 5$$

Students compare and create models for different contexts.

Consider the examples below:



APPLYING FRACTION SENSE TO REAL-WORLD CONTEXTS

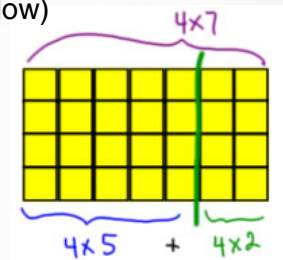
Problems often integrate consumer math concepts in math 8 and 9.



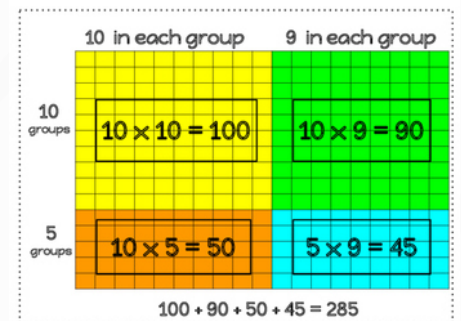
MULTIPLICATION: AREA / ARRAY

The area / array model for multiplication connects to the distributive property and can be used to solve multi-digit multiplication problems. (See the 3 examples below)

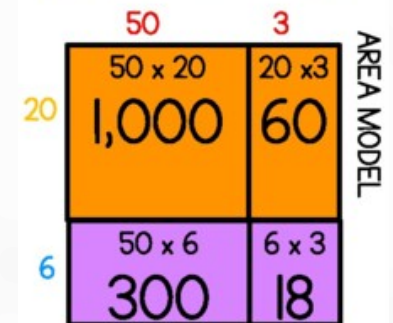
$$4 \times 7$$



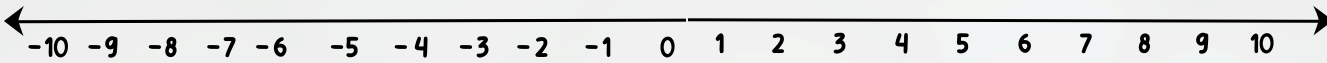
$$15 \times 19$$



$$26 \times 53$$



Add together all products:
 $1,000 + 60 + 300 + 18 = 1,378$



STEP-BY-STEP OPERATIONS

Students learn key relationships that are the building blocks of algebra and learn how to perform operations in a logical, step-by-step manner.



KEY IDEA

$$2 \times (2 + 5) = 2 \times 7 = 14$$

Parentheses (), square brackets [], fractional notation, & square root symbols can influence the order of operations.

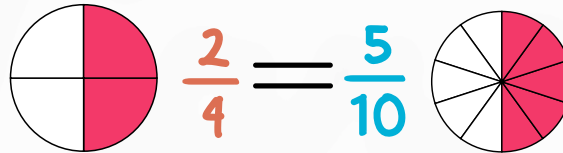
ADD OR SUBTRACT FRACTIONS

Common denominator required. Then add or subtract **only the numerators**

$$\frac{A}{B} + \frac{C}{B} = \frac{A+C}{B}$$

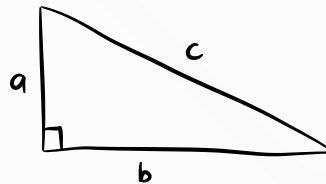
$$\frac{A}{B} - \frac{C}{B} = \frac{A-C}{B}$$

PROPORTIONS EQUATE FRACTIONS



SUBSTITUTION: FORMULAS

Solving for unknown values may require replacing variables in common geometric formulas at this level.

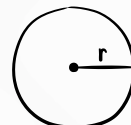


$$a^2 + b^2 = c^2$$

$$c = \sqrt{a^2 + b^2}$$



$$A = bh$$



$$A = \pi r^2$$



CAMPBELL RIVER
School District 72

**GRADE 8 & 9
MATH**

*SYMBOLIC LOGIC
(ALGEBRAIC
THINKING)*

This brochure highlights some of the methods for developing algebraic reasoning in grades 8 & 9.

$$2.46 = 2 + (46/100)$$

$$[2 \times 3] + 7 = 13$$