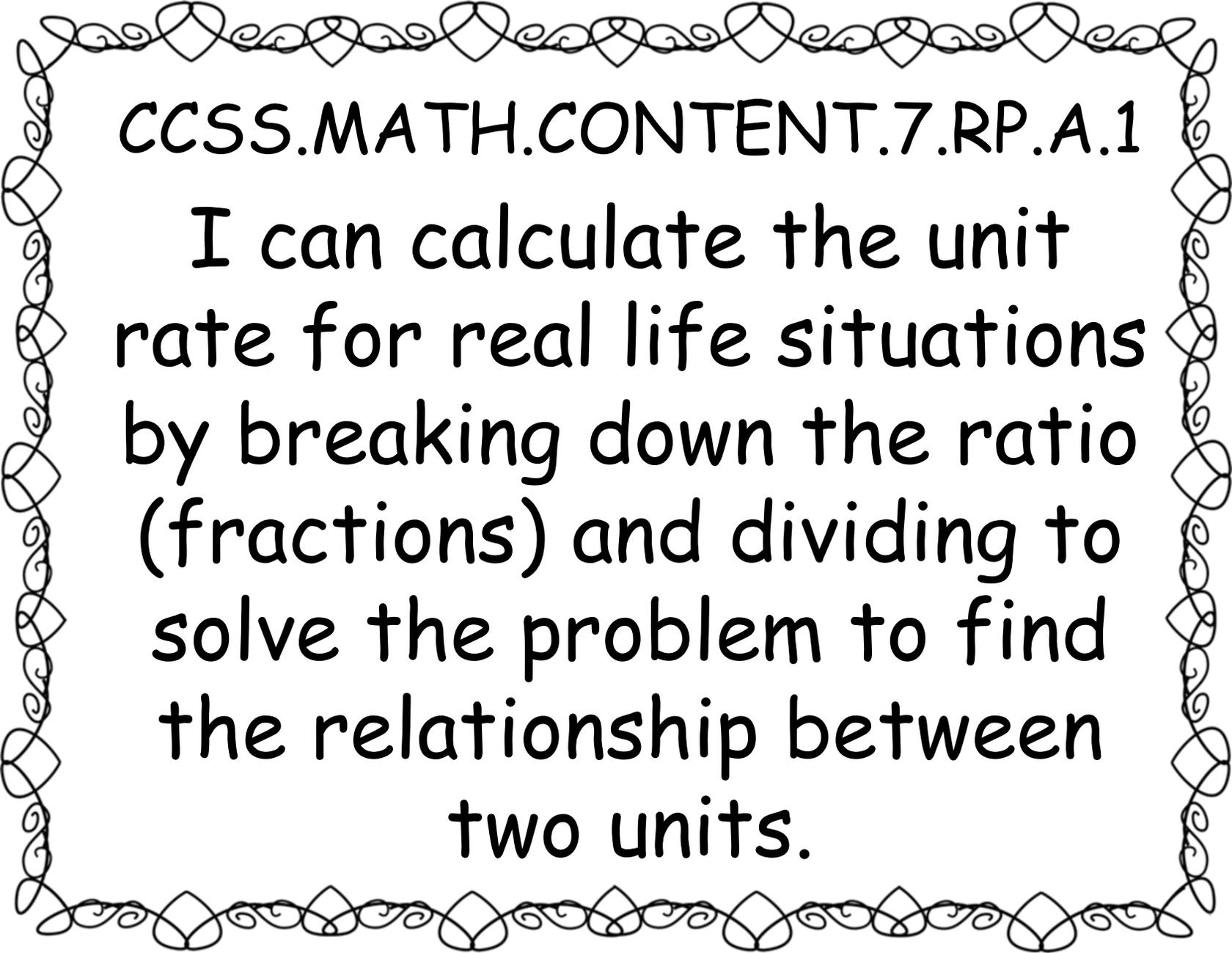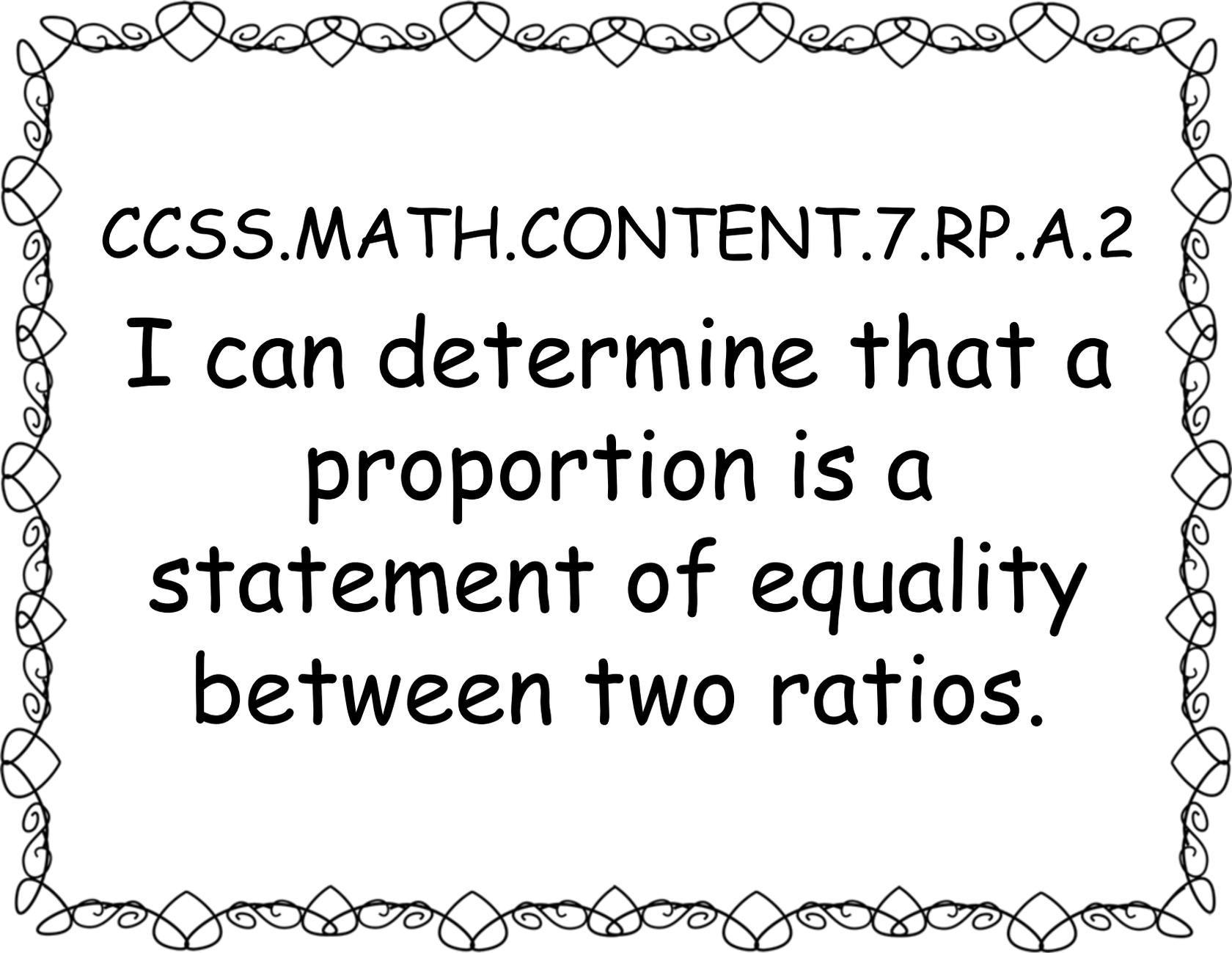# 7th Grade Math

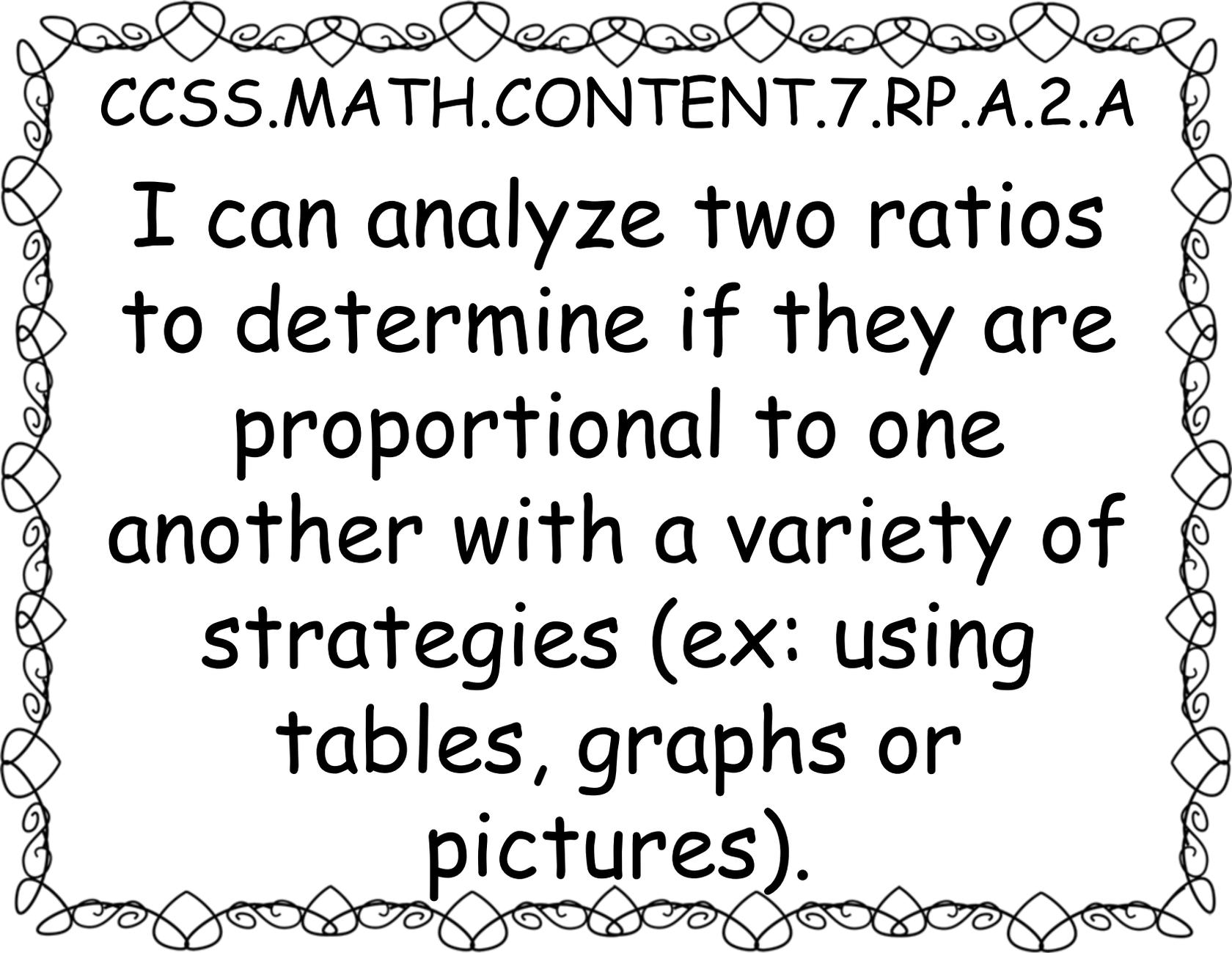# Ratios & Proportional Relationships

CCSS "I Can" Statements

CCSS.MATH.CONTENT.7.RP.A.1

I can calculate the unit rate for real life situations by breaking down the ratio (fractions) and dividing to solve the problem to find the relationship between two units.
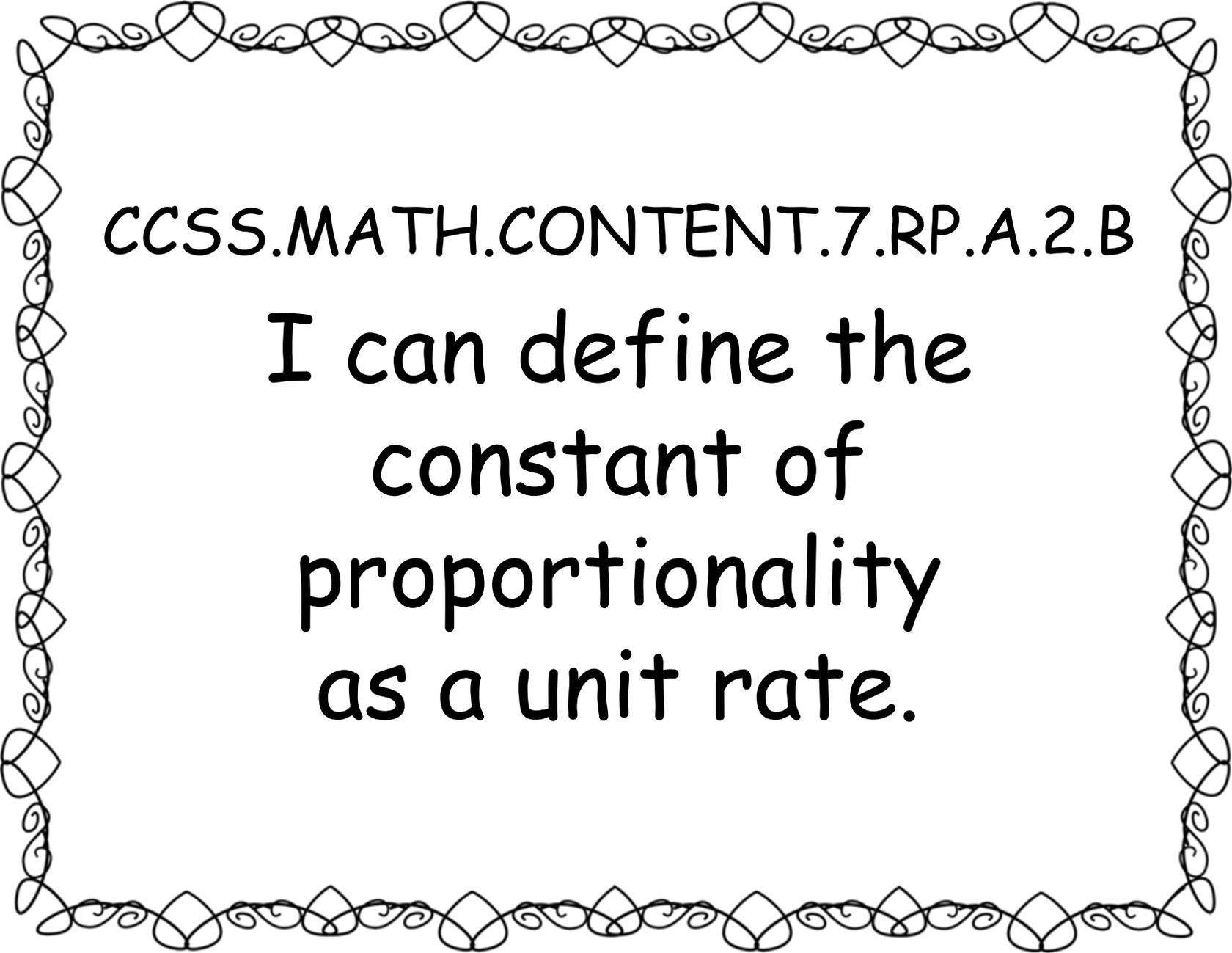
CCSS.MATH.CONTENT.7.RP.A.2

I can determine that a proportion is a statement of equality between two ratios.
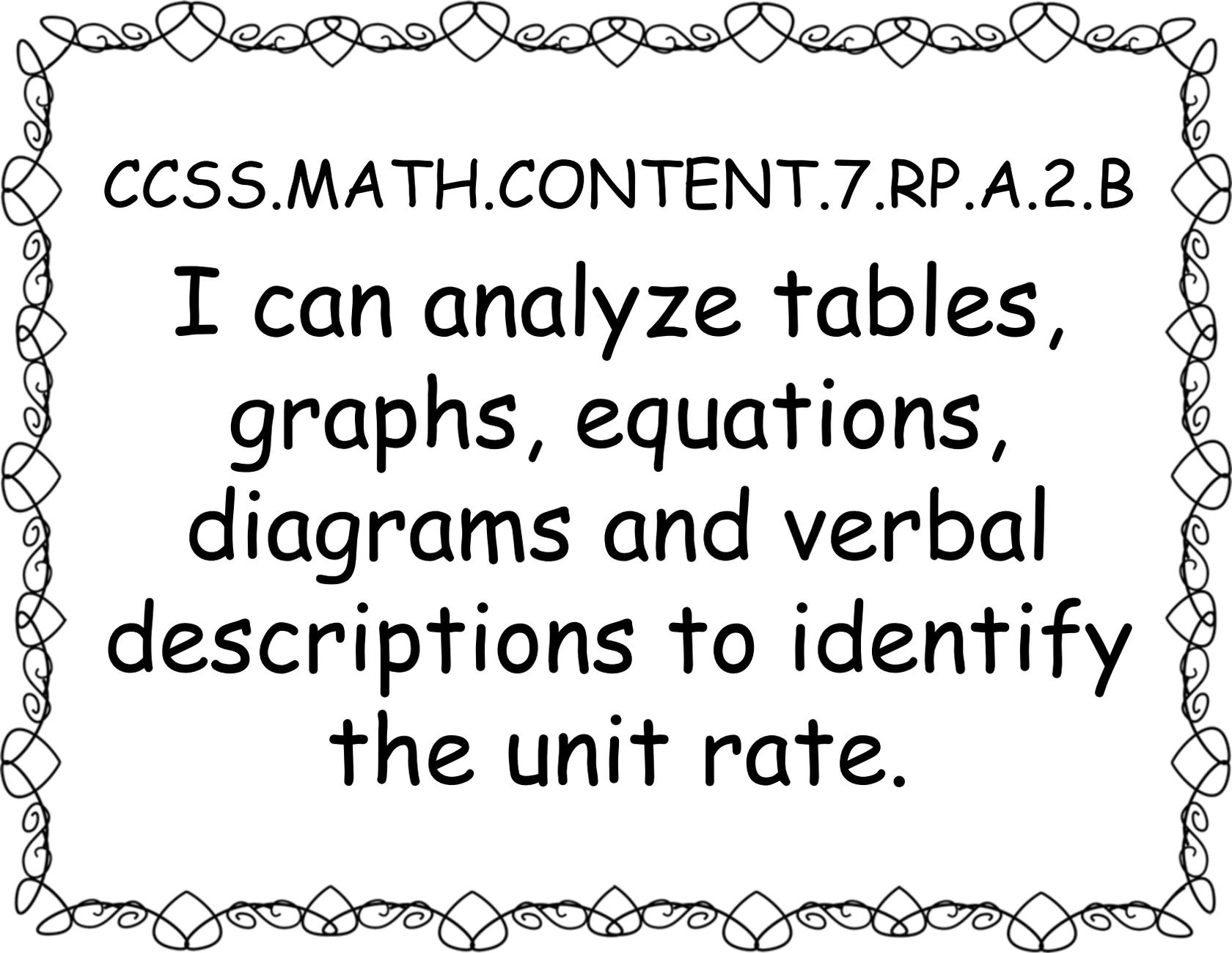
CCSS.MATH.CONTENT.7.RP.A.2.A

I can analyze two ratios to determine if they are proportional to one another with a variety of strategies (ex: using tables, graphs or pictures).
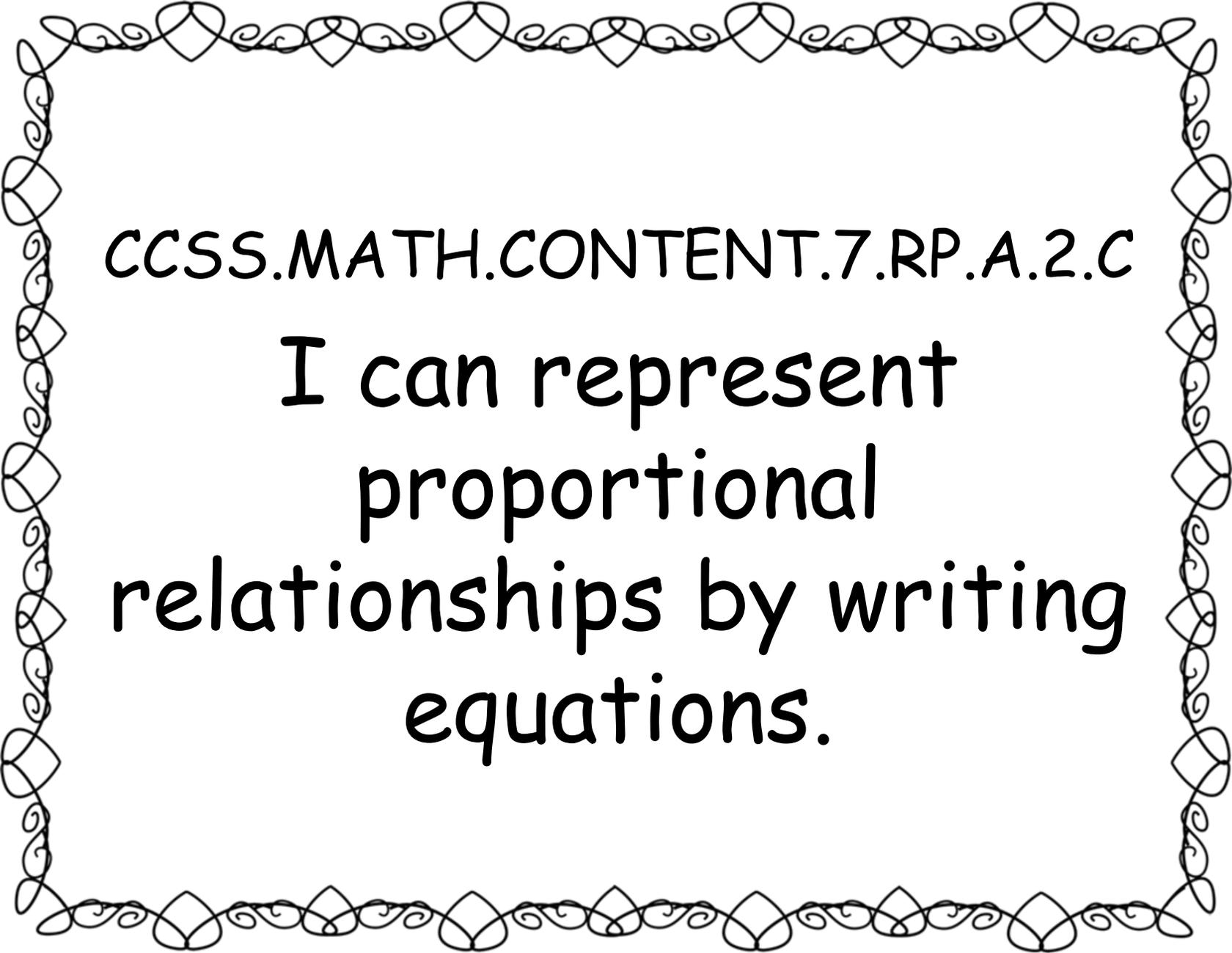
CCSS.MATH.CONTENT.7.RP.A.2.B

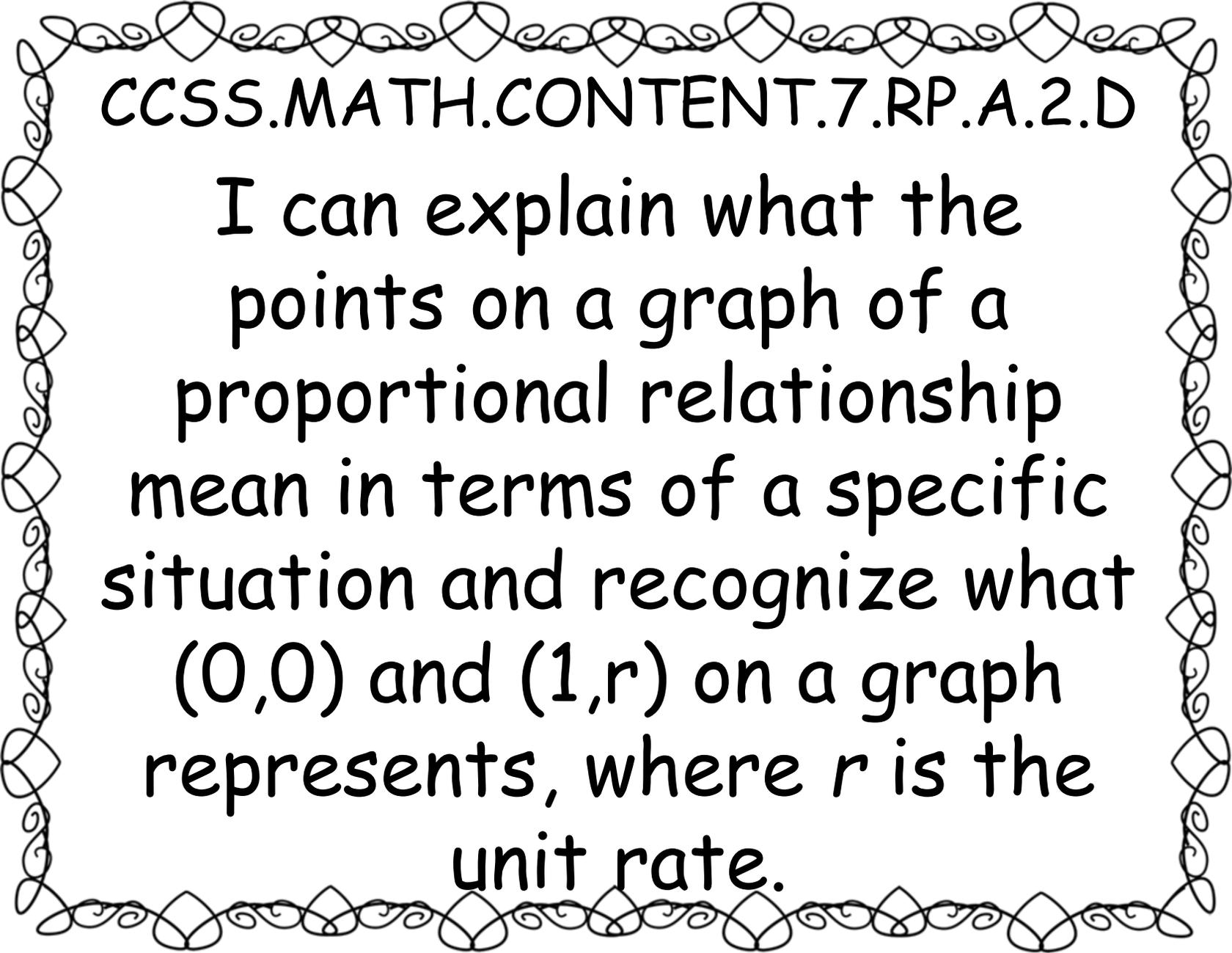I can define the constant of proportionality as a unit rate.

CCSS.MATH.CONTENT.7.RP.A.2.B

I can analyze tables, graphs, equations, diagrams and verbal descriptions to identify the unit rate.
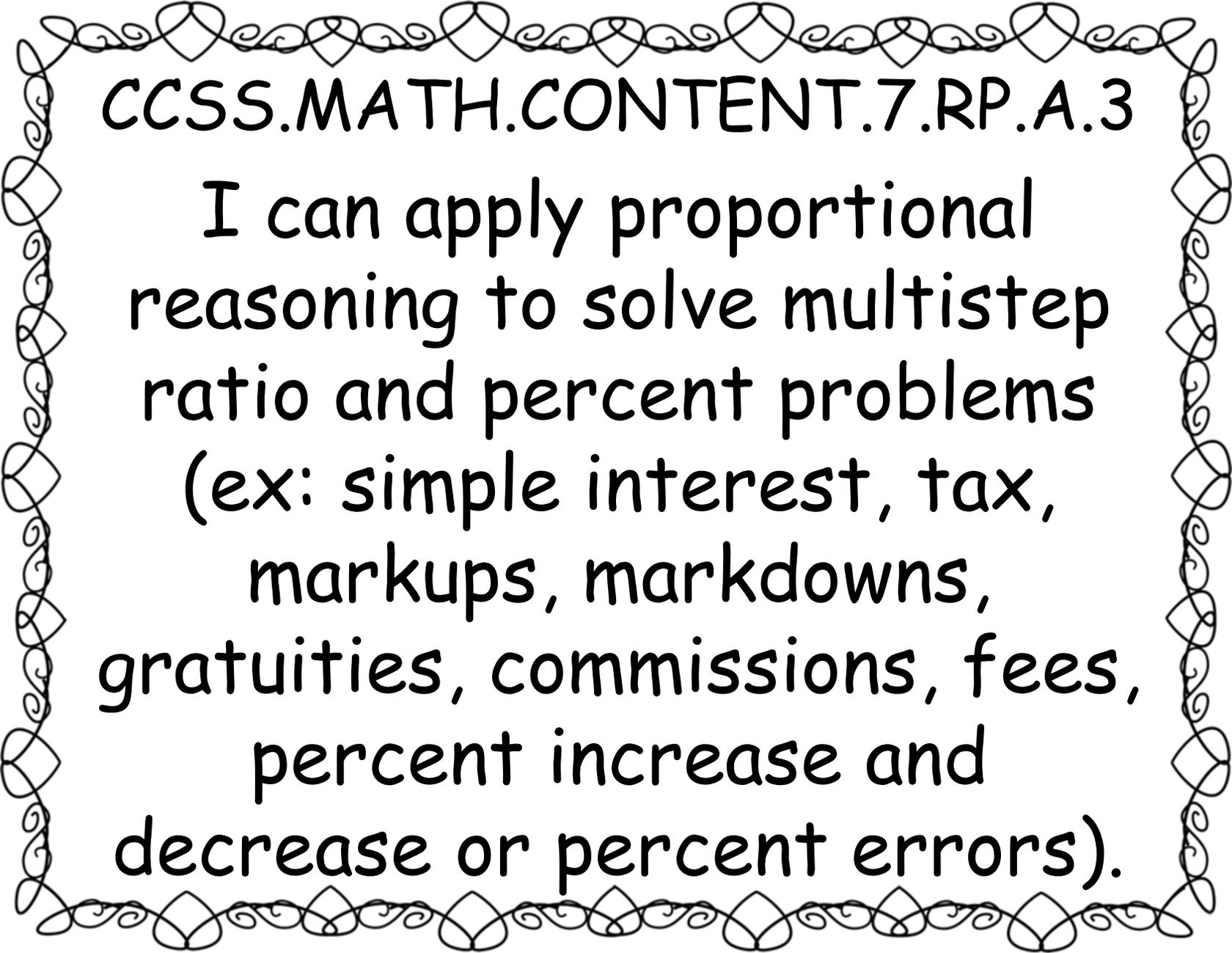
CCSS.MATH.CONTENT.7.RP.A.2.C

I can represent proportional relationships by writing equations.

CCSS.MATH.CONTENT.7.RP.A.2.D

I can explain what the points on a graph of a proportional relationship mean in terms of a specific situation and recognize what (0,0) and (1,r) on a graph represents, where r is the unit rate.
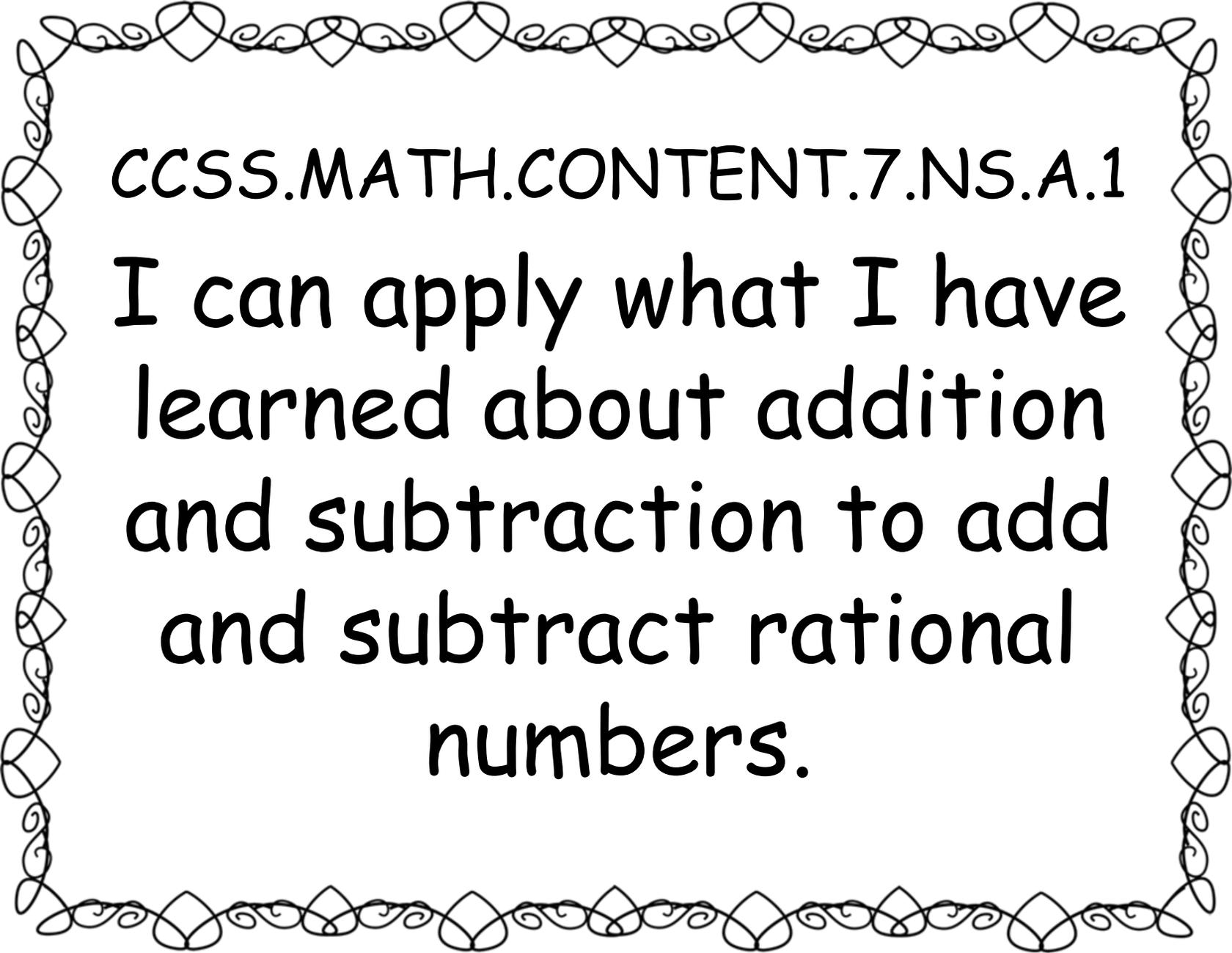
CCSS.MATH.CONTENT.7.RP.A.3

I can apply proportional reasoning to solve multistep ratio and percent problems (ex: simple interest, tax, markups, markdowns, gratuities, commissions, fees, percent increase and decrease or percent errors).
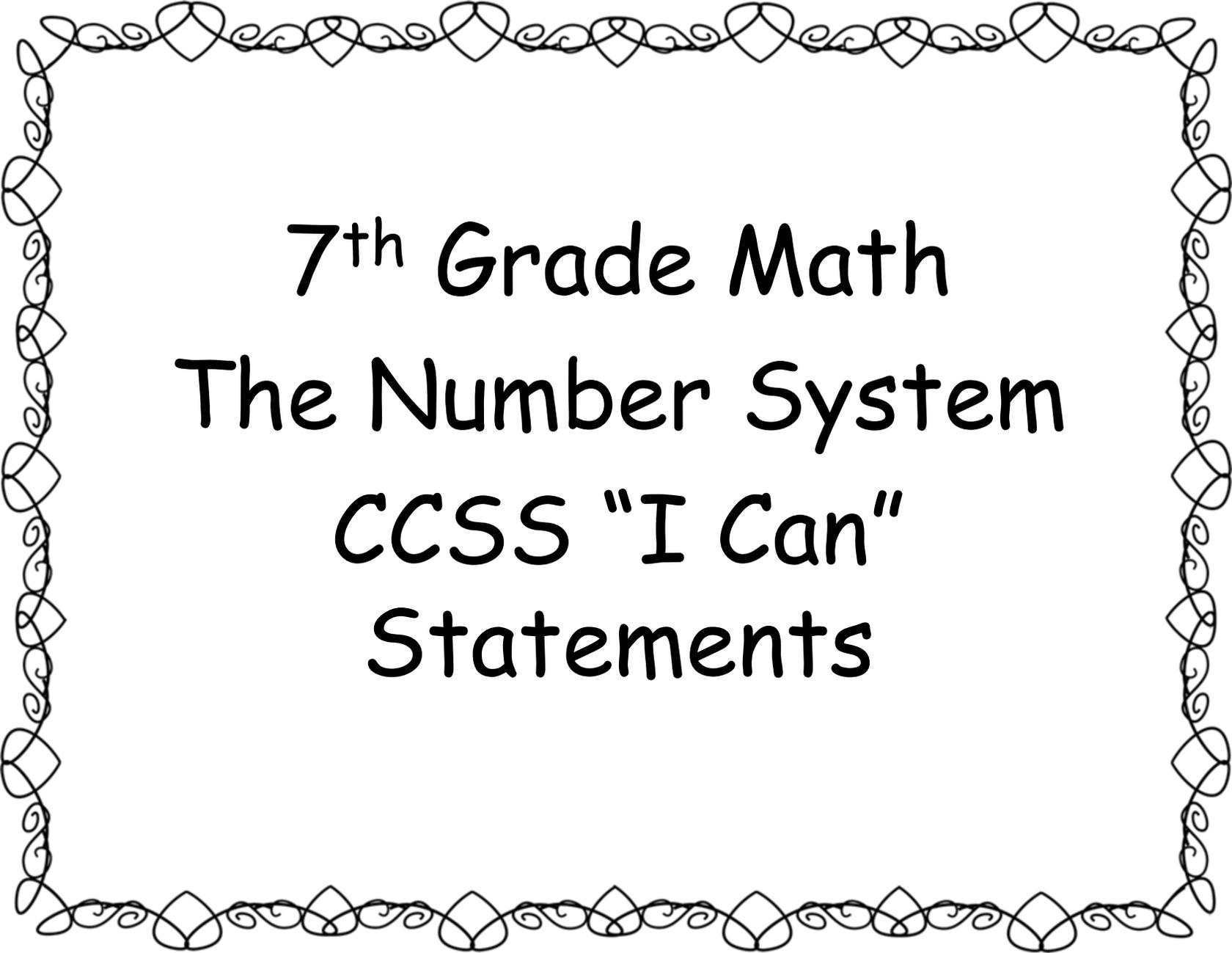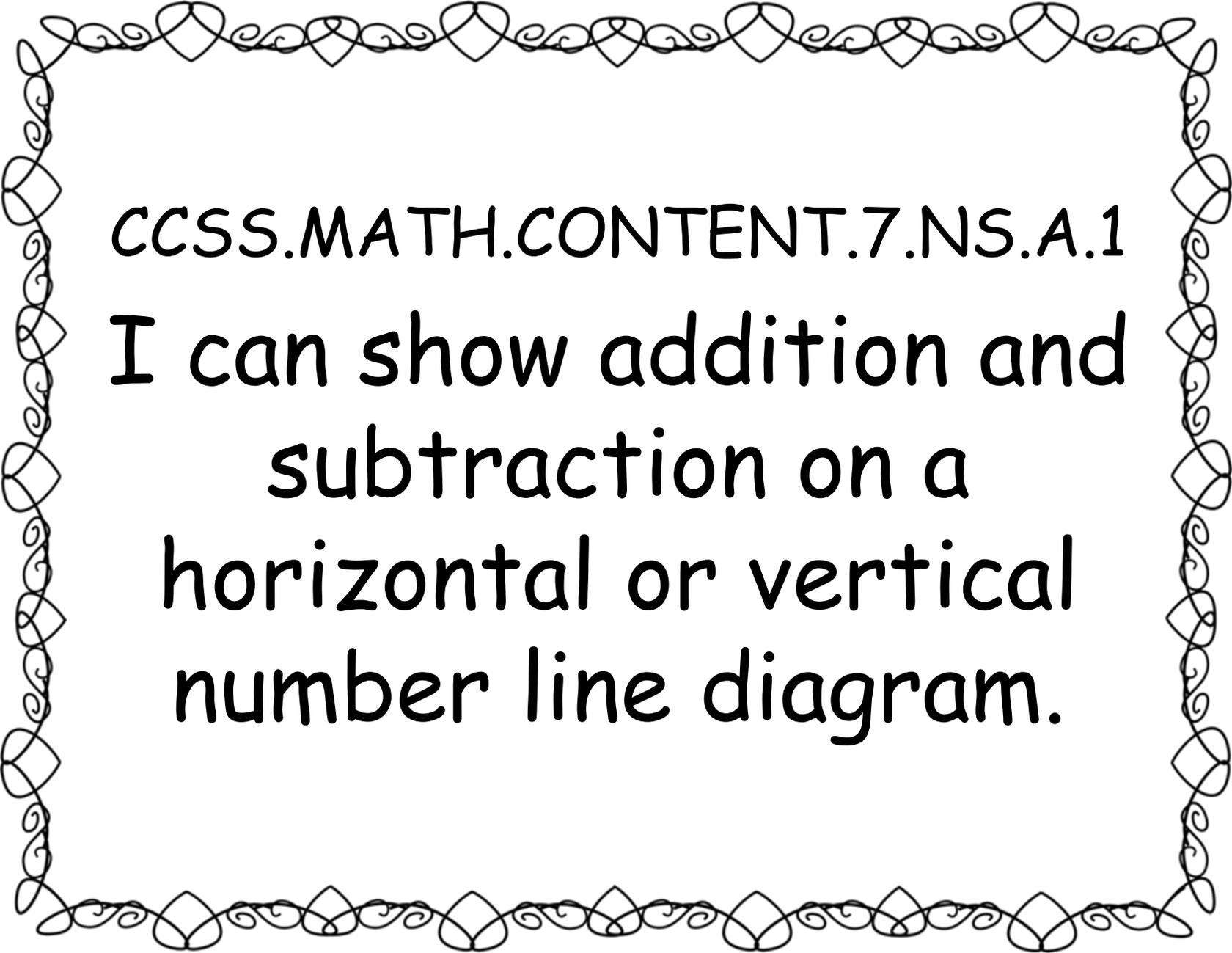
7th Grade Math
The Number System
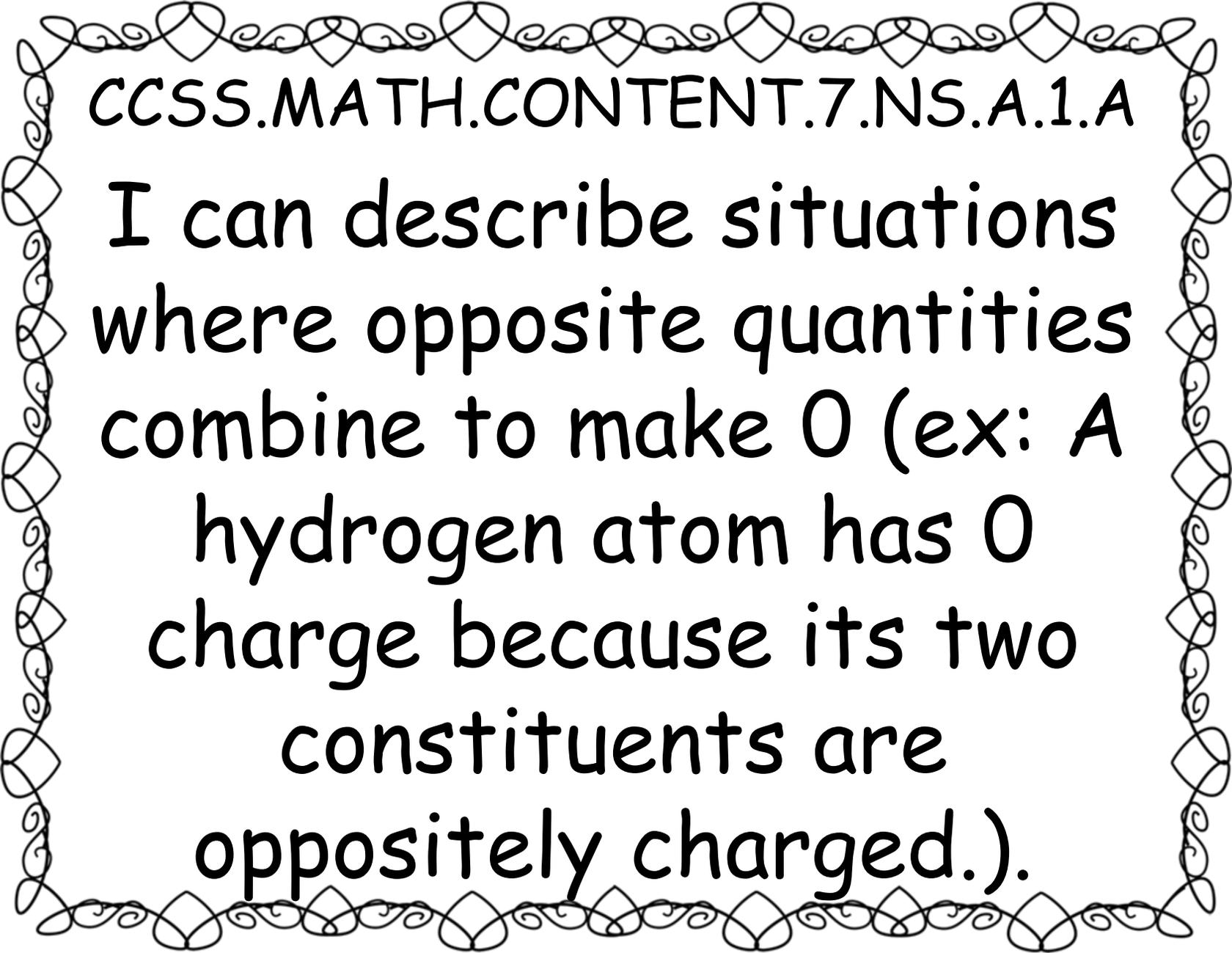# CCSS "I Can"
Statements

CCSS.MATH.CONTENT.7.NS.A.1

I can apply what I have learned about addition and subtraction to add and subtract rational numbers.
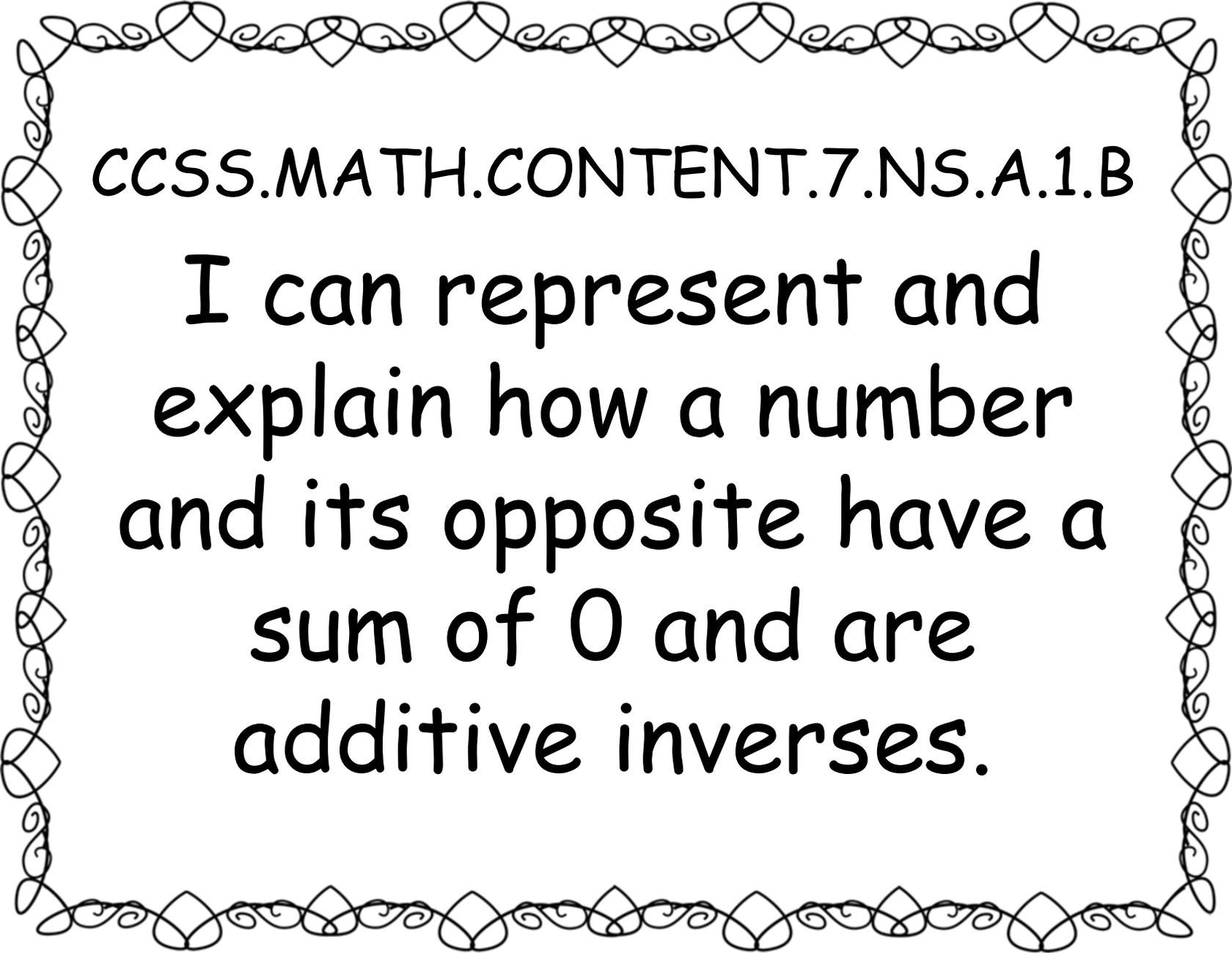
CCSS.MATH.CONTENT.7.NS.A.1

I can show addition and subtraction on a horizontal or vertical number line diagram.
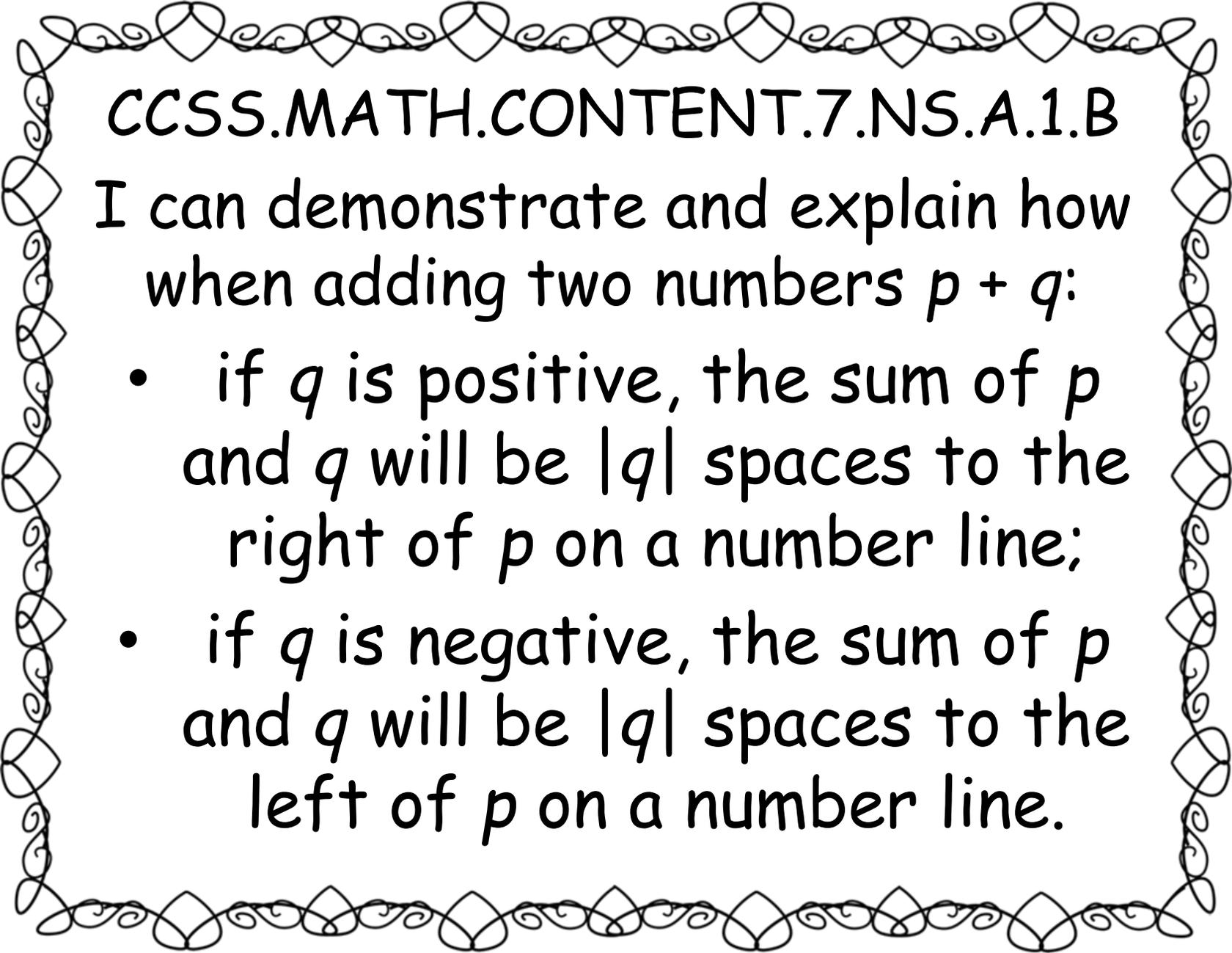
CCSS.MATH.CONTENT.7.NS.A.1.A

I can describe situations where opposite quantities combine to make 0 (ex: A hydrogen atom has 0 charge because its two constituents are oppositely charged.).
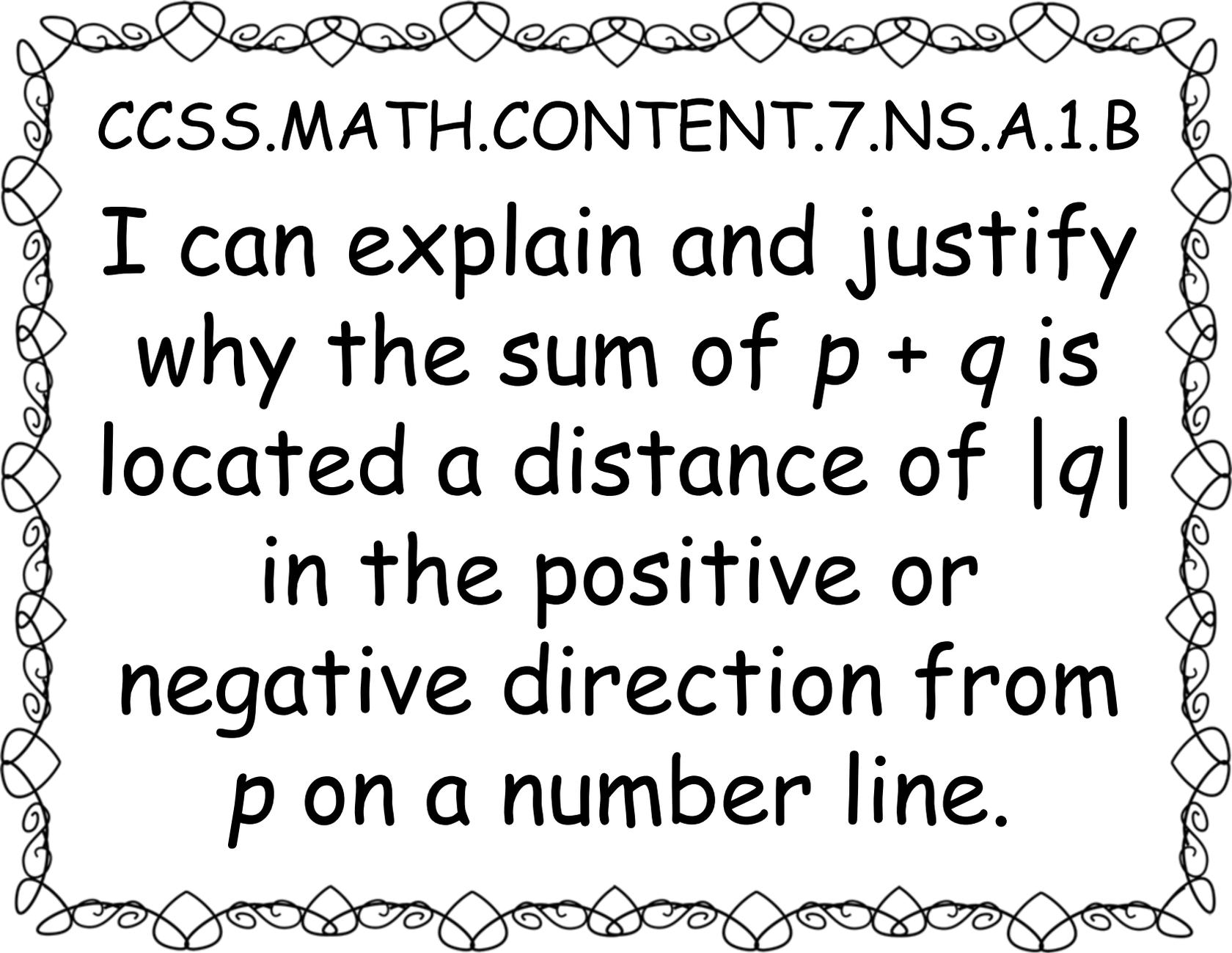
CCSS.MATH.CONTENT.7.NS.A.1.B

I can represent and explain how a number and its opposite have a sum of 0 and are additive inverses.
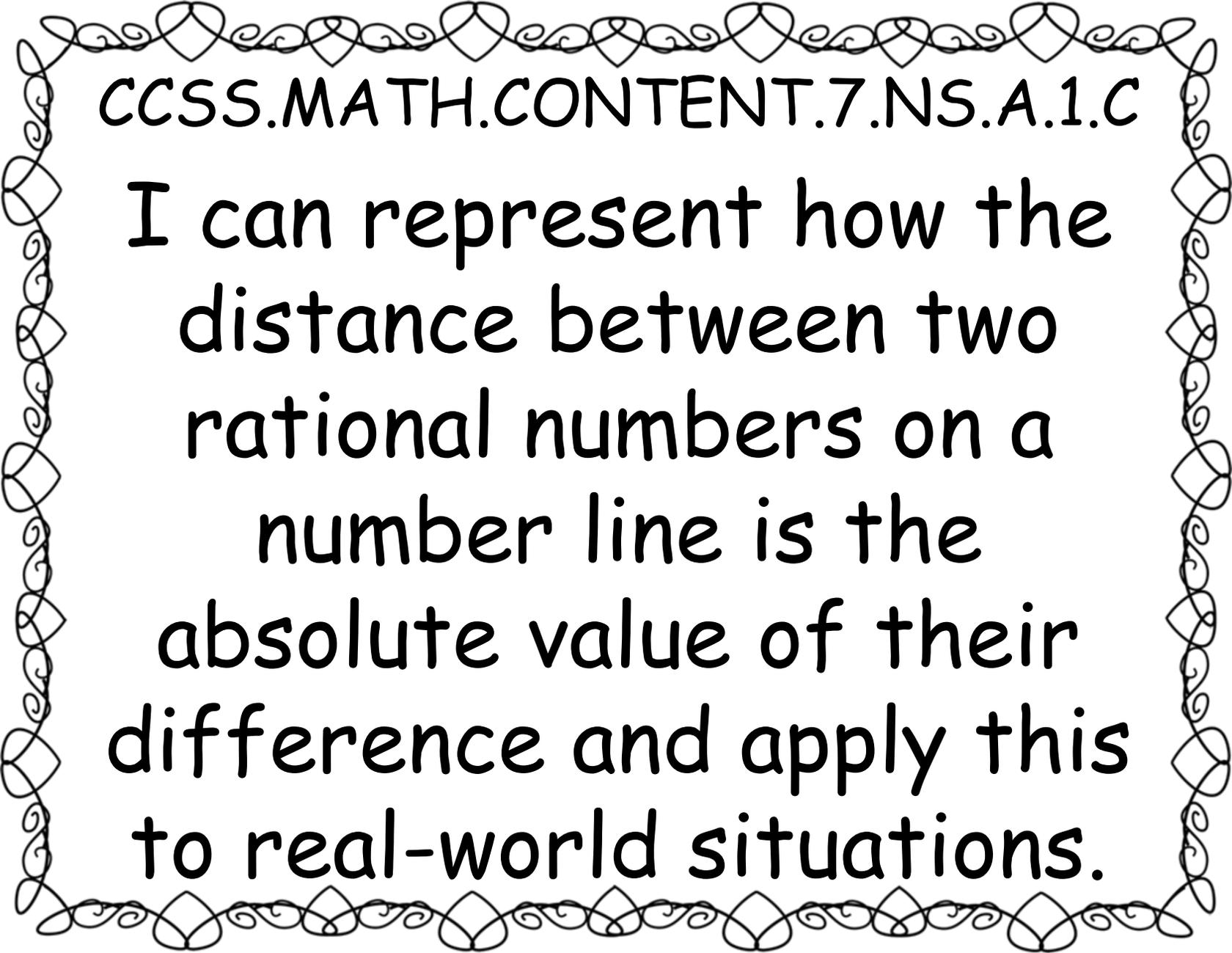
CCSS.MATH.CONTENT.7.NS.A.1.B

I can demonstrate and explain how when adding two numbers $p + q$:

- if q is positive, the sum of p and q will be $|q|$ spaces to the right of p on a number line;

- if q is negative, the sum of p and q will be $|q|$ spaces to the left of p on a number line.
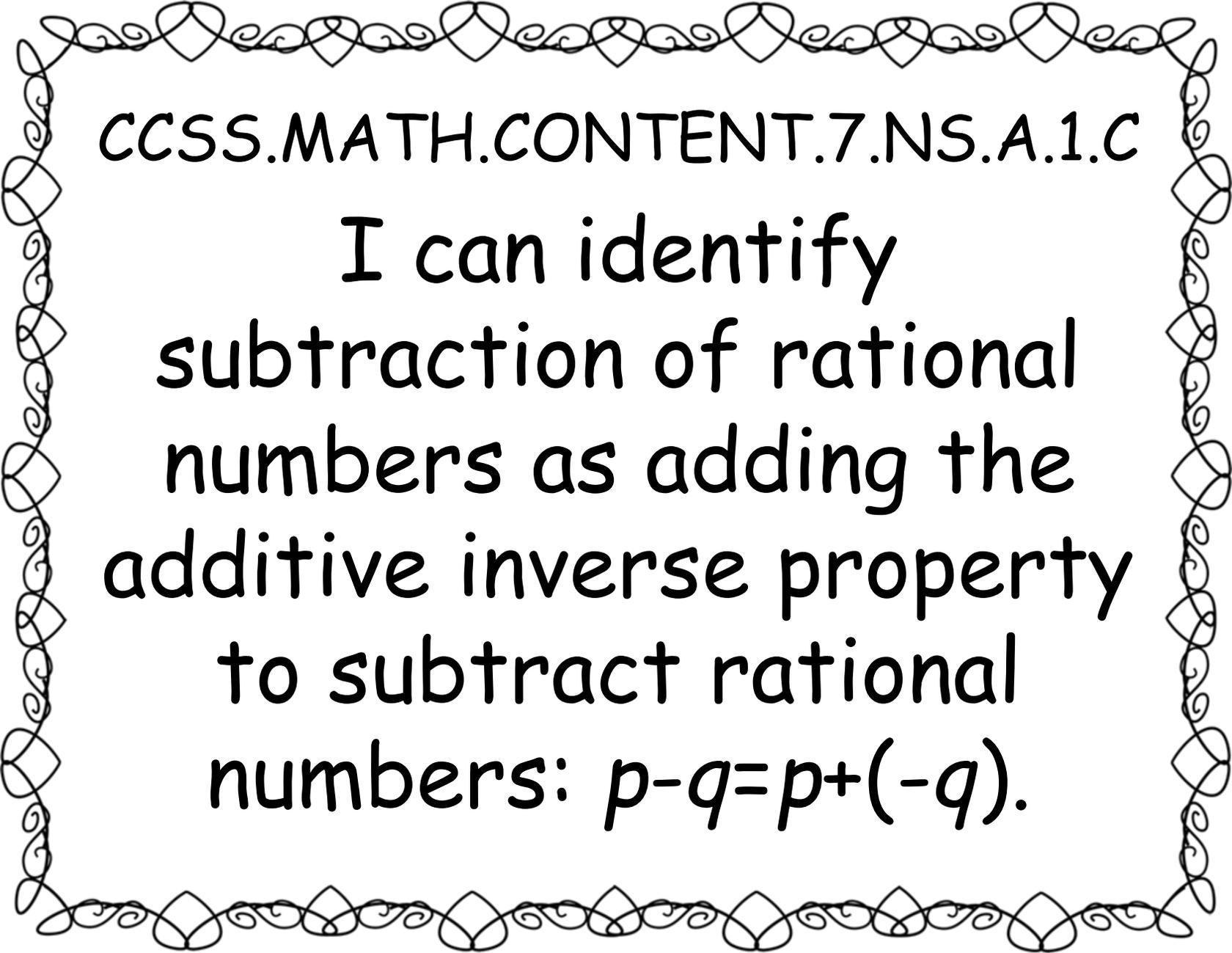
CCSS.MATH.CONTENT.7.NS.A.1.B

I can explain and justify why the sum of *p + q* is located a distance of |*q*| in the positive or negative direction from *p* on a number line.
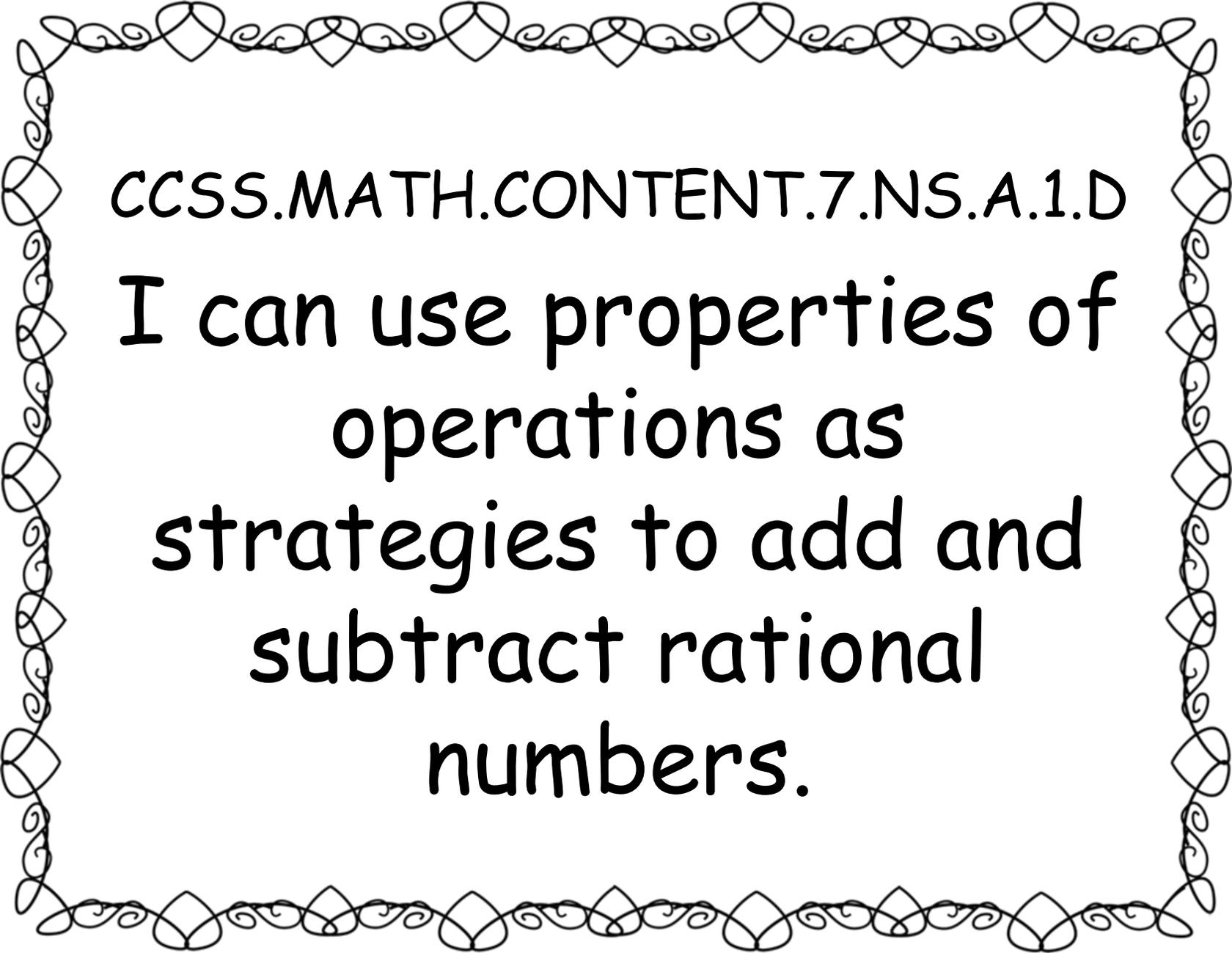
CCSS.MATH.CONTENT.7.NS.A.1.C

I can represent how the distance between two rational numbers on a number line is the absolute value of their difference and apply this to real-world situations.
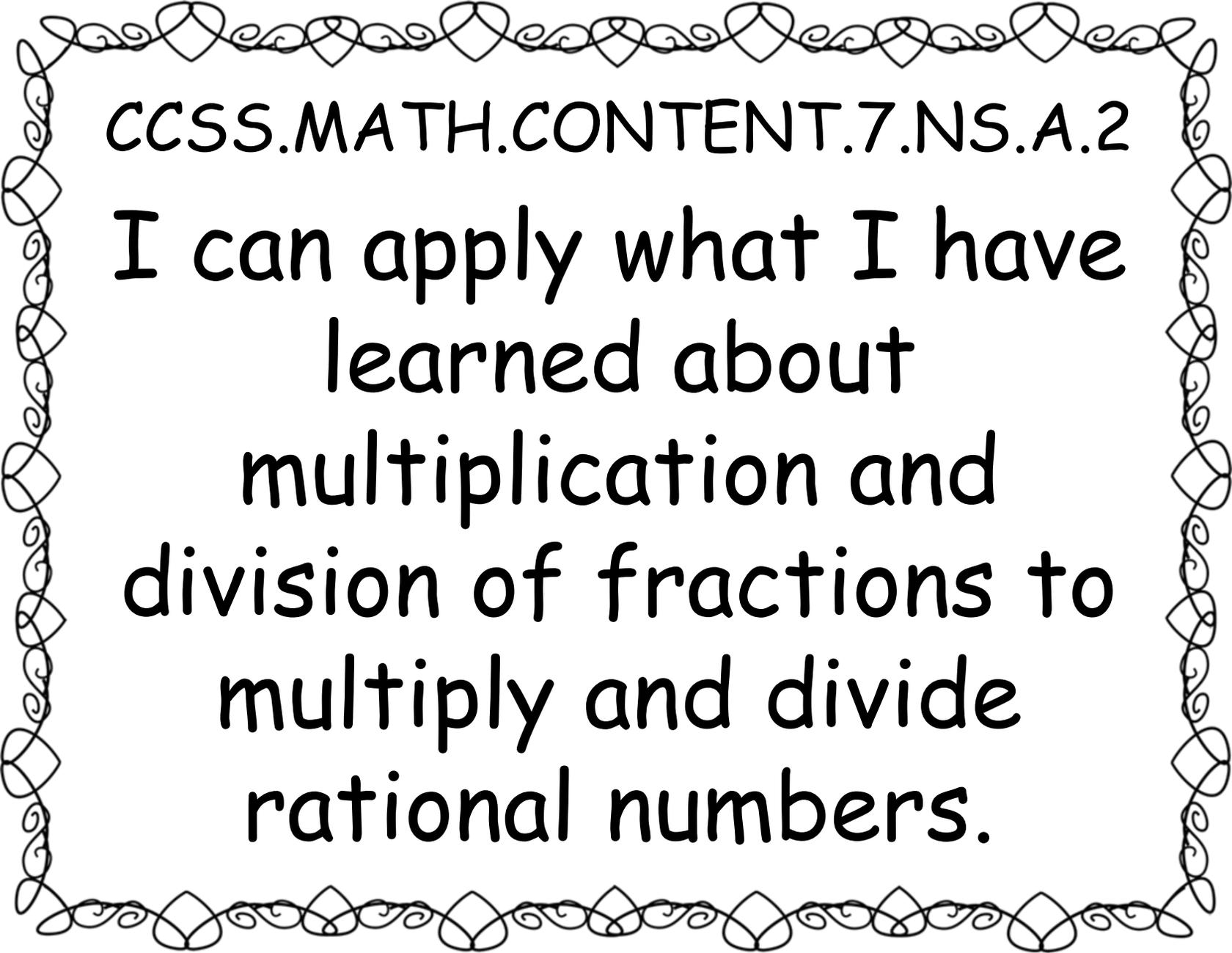
CCSS.MATH.CONTENT.7.NS.A.1.C

I can identify subtraction of rational numbers as adding the additive inverse property to subtract rational numbers: *p-q=p+(-q)*.
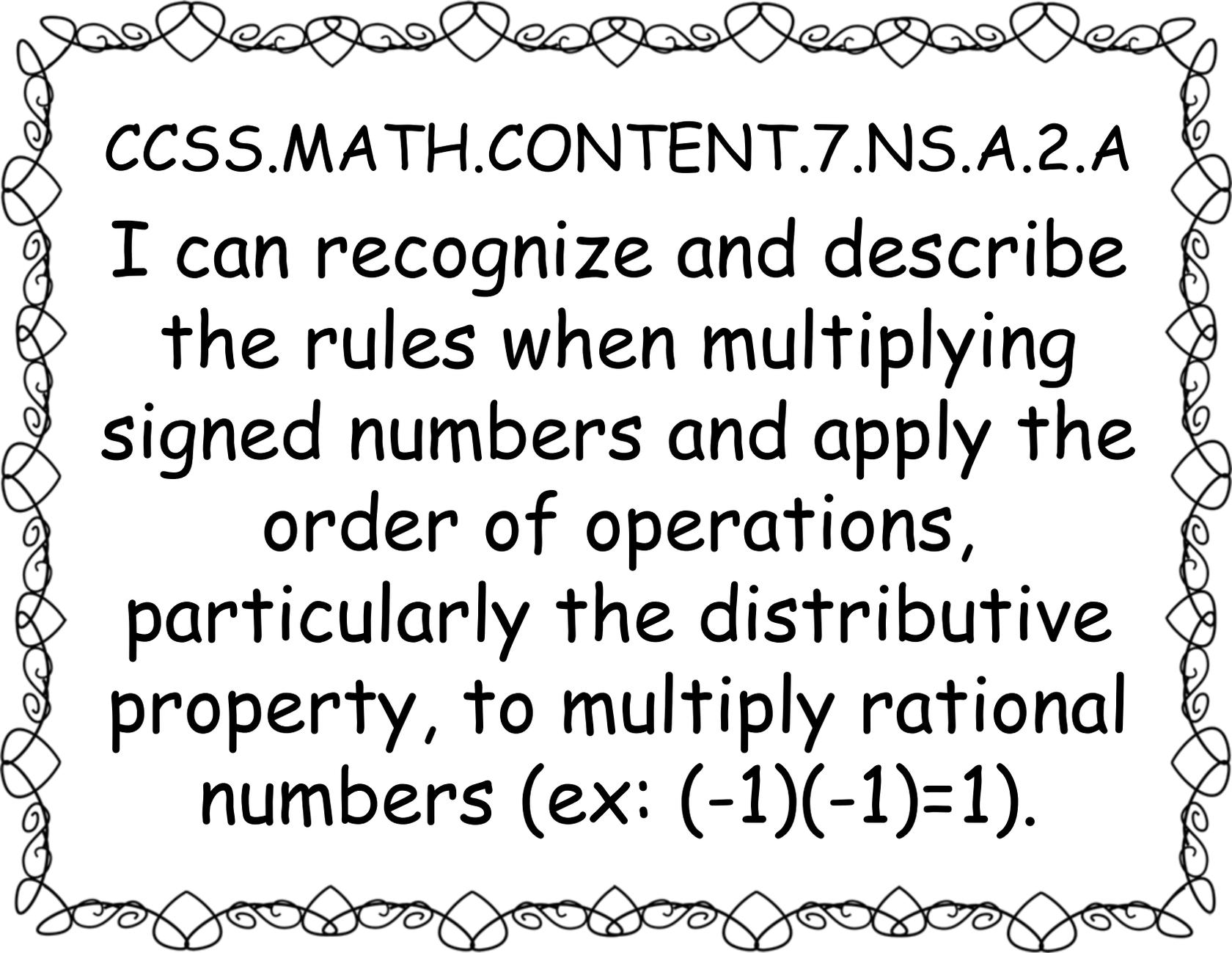
CCSS.MATH.CONTENT.7.NS.A.1.D

I can use properties of operations as strategies to add and subtract rational numbers.
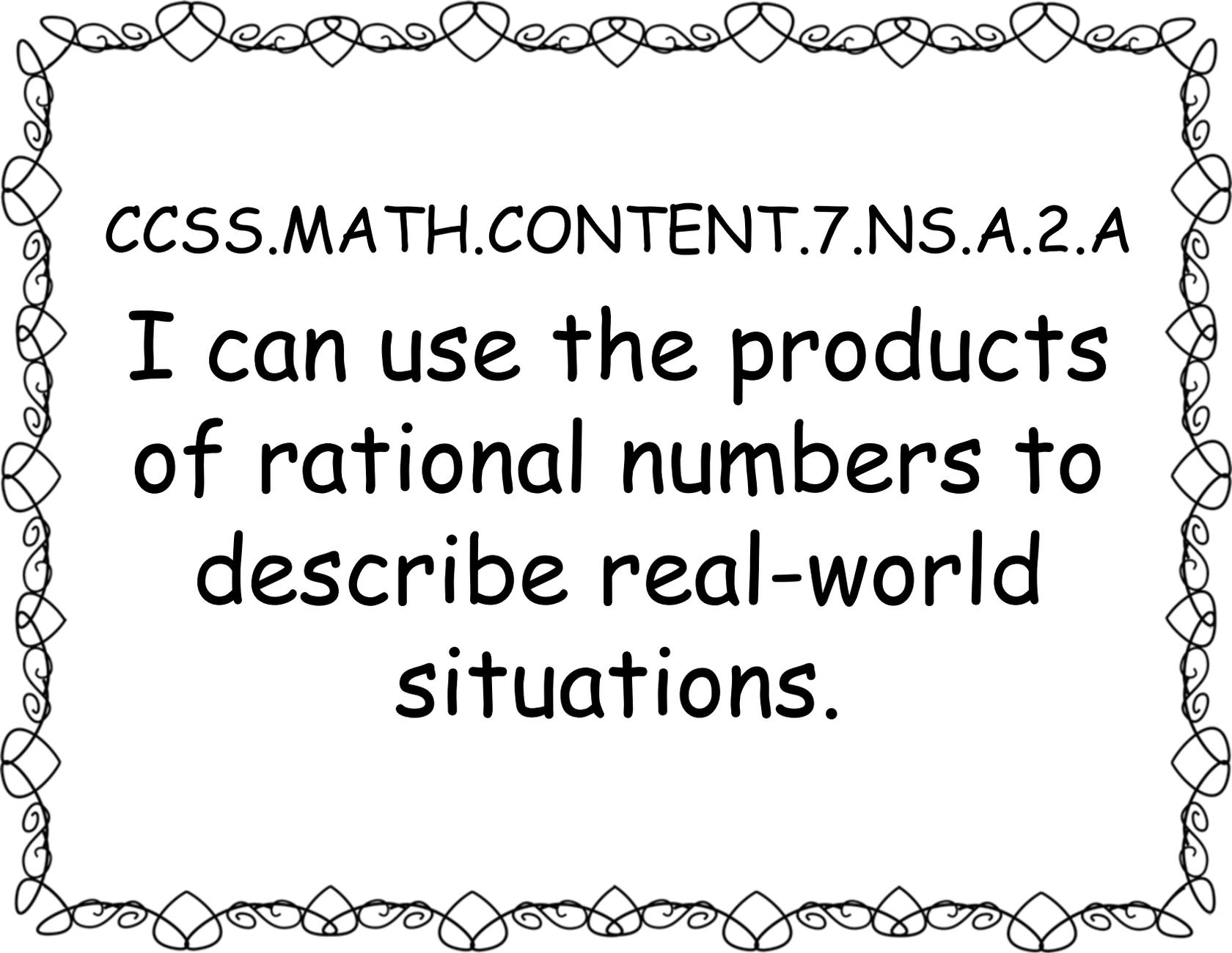
CCSS.MATH.CONTENT.7.NS.A.2

I can apply what I have learned about multiplication and division of fractions to multiply and divide rational numbers.
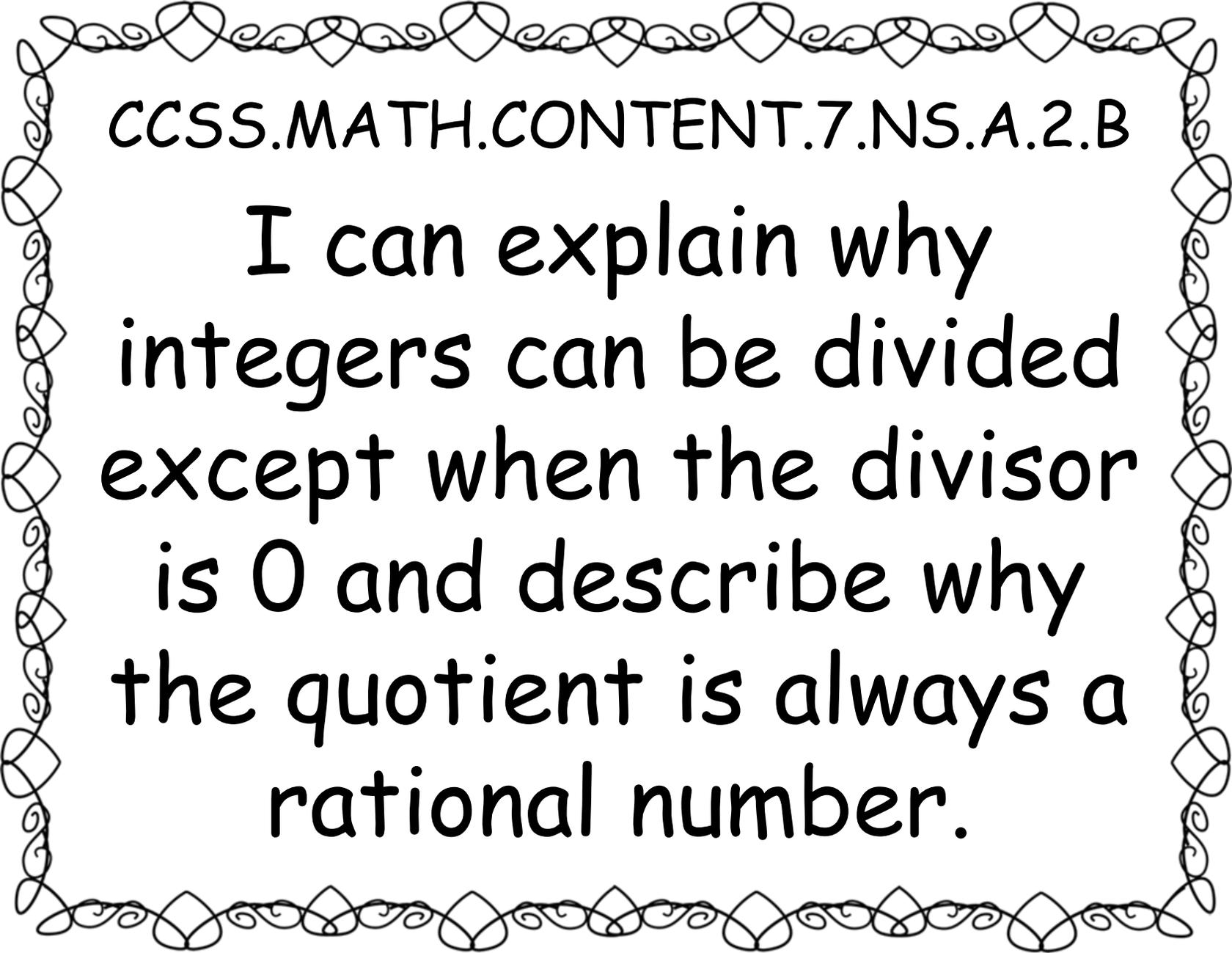
CCSS.MATH.CONTENT.7.NS.A.2.A

I can recognize and describe the rules when multiplying signed numbers and apply the order of operations, particularly the distributive property, to multiply rational numbers (ex: (-1)(-1)=1).
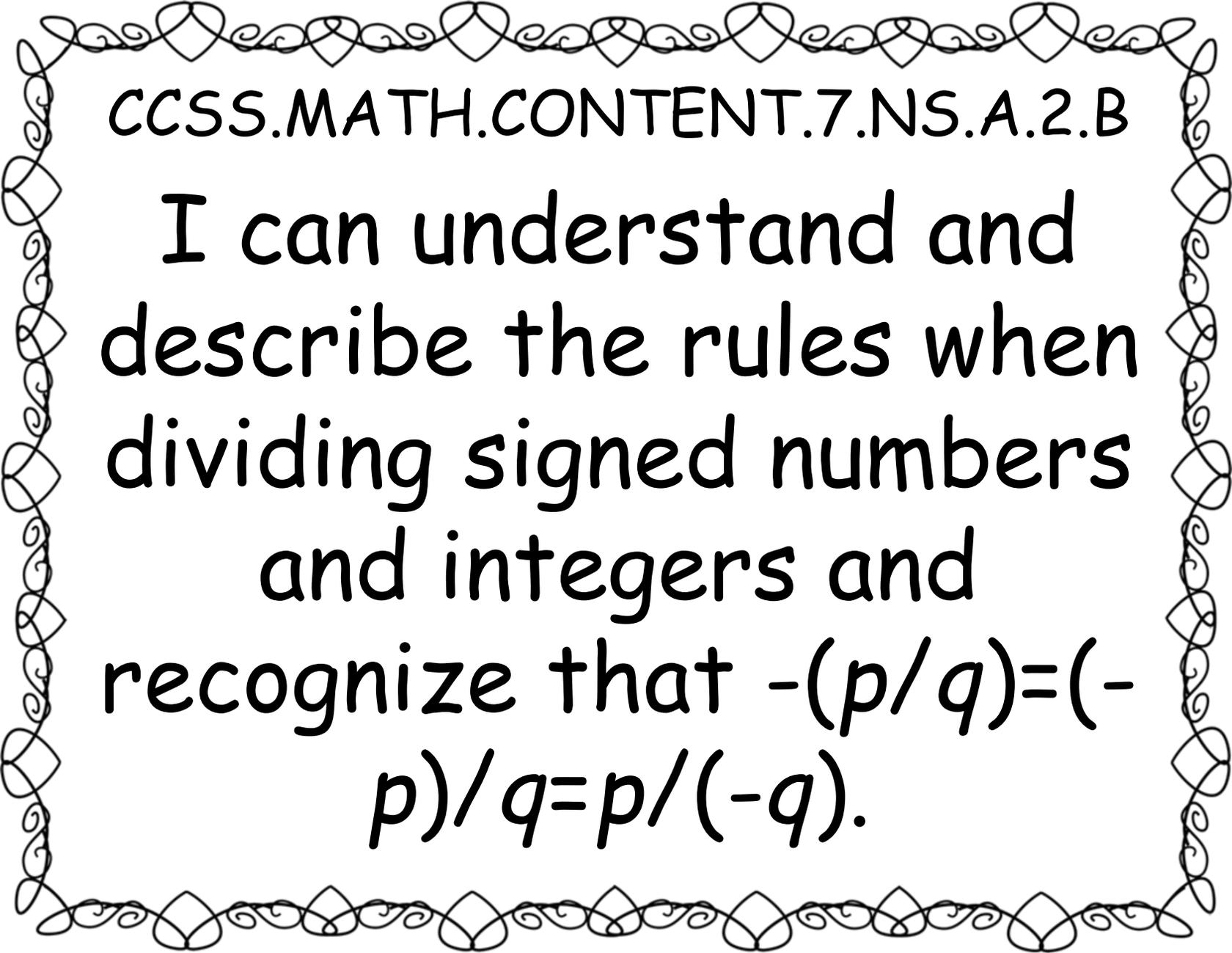
CCSS.MATH.CONTENT.7.NS.A.2.A

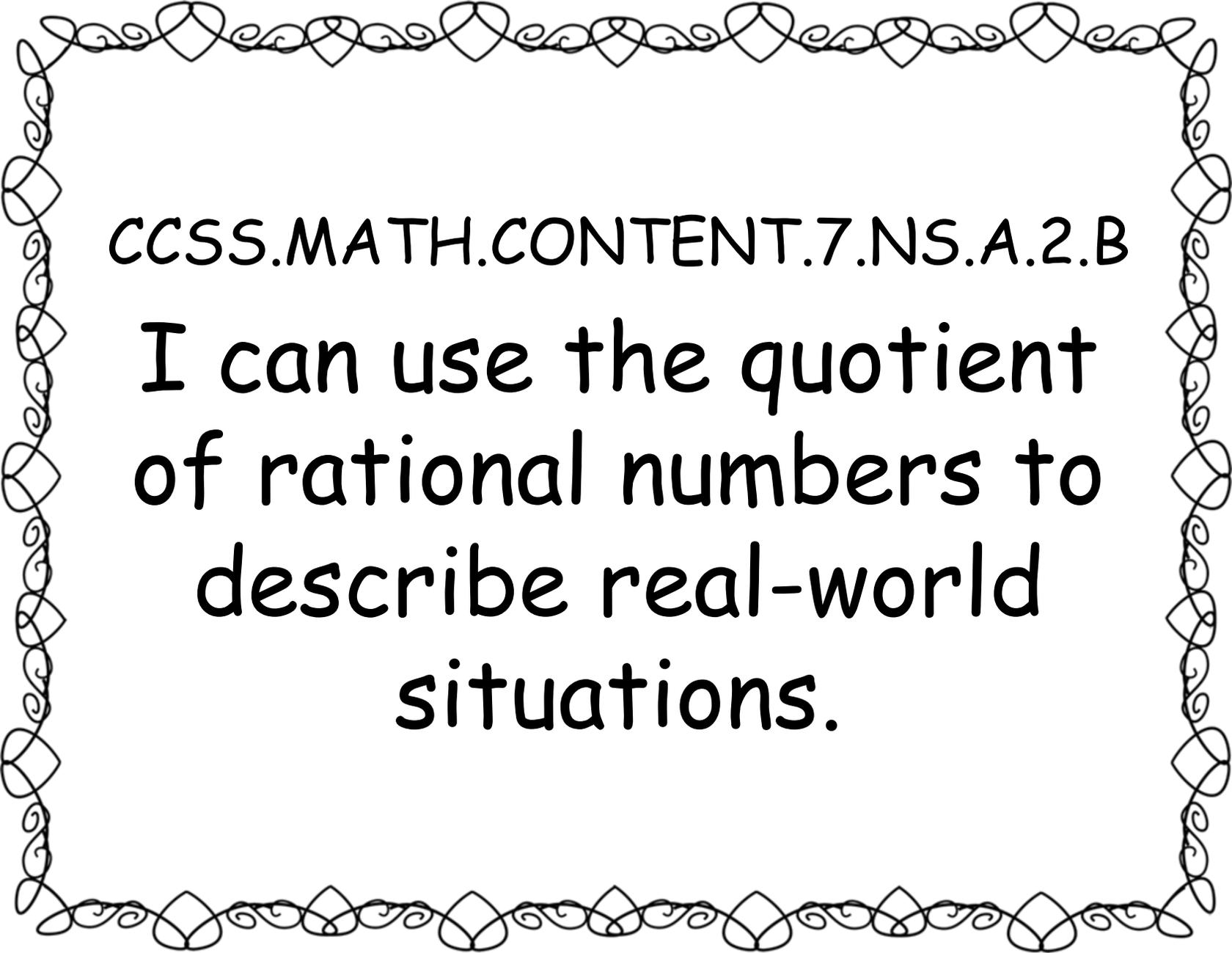I can use the products of rational numbers to describe real-world situations.

I can explain why integers can be divided except when the divisor is 0 and describe why the quotient is always a rational number.
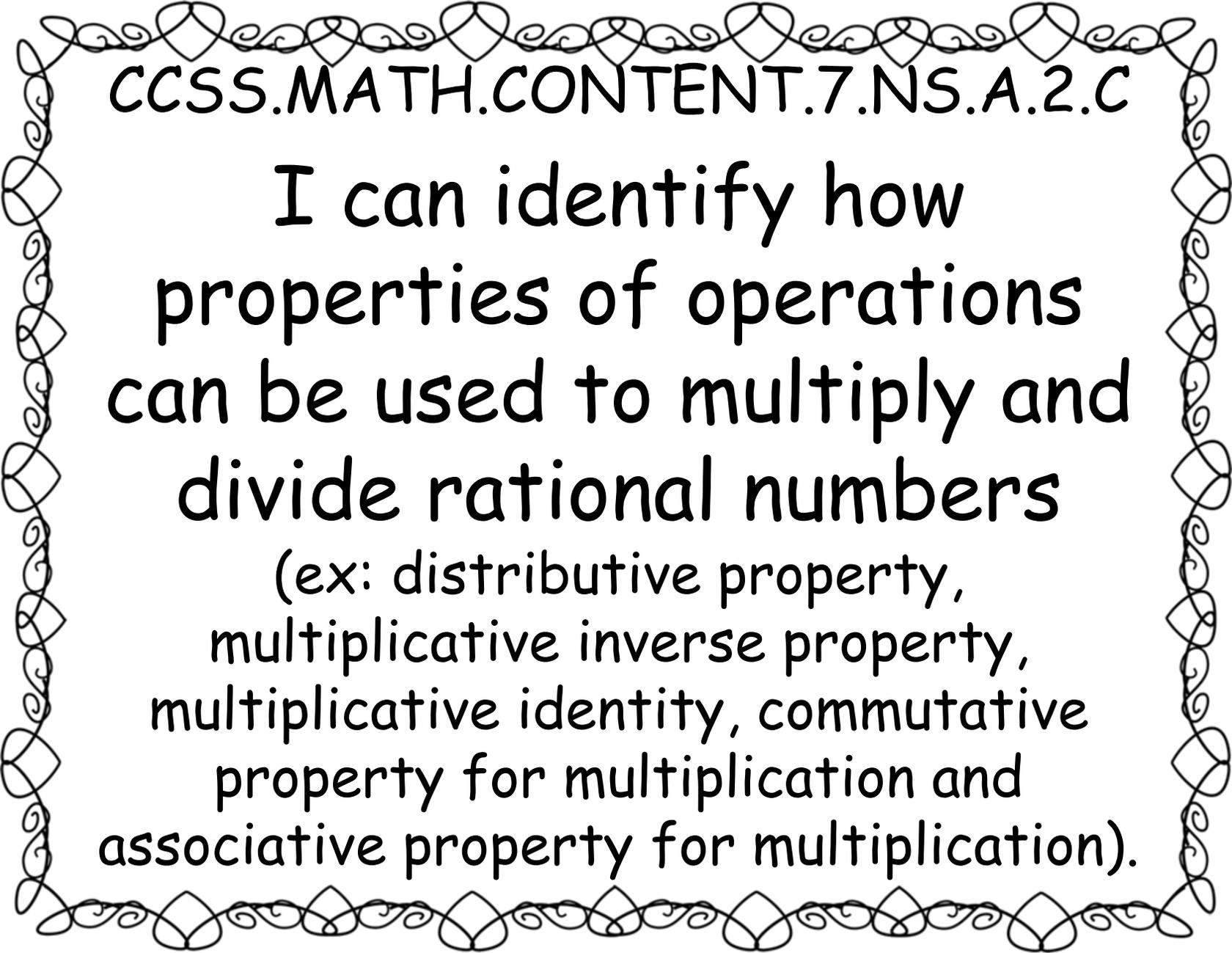
CCSS.MATH.CONTENT.7.NS.A.2.B

I can understand and describe the rules when dividing signed numbers and integers and recognize that -(p/q)=(-p)/q=p/(-q).
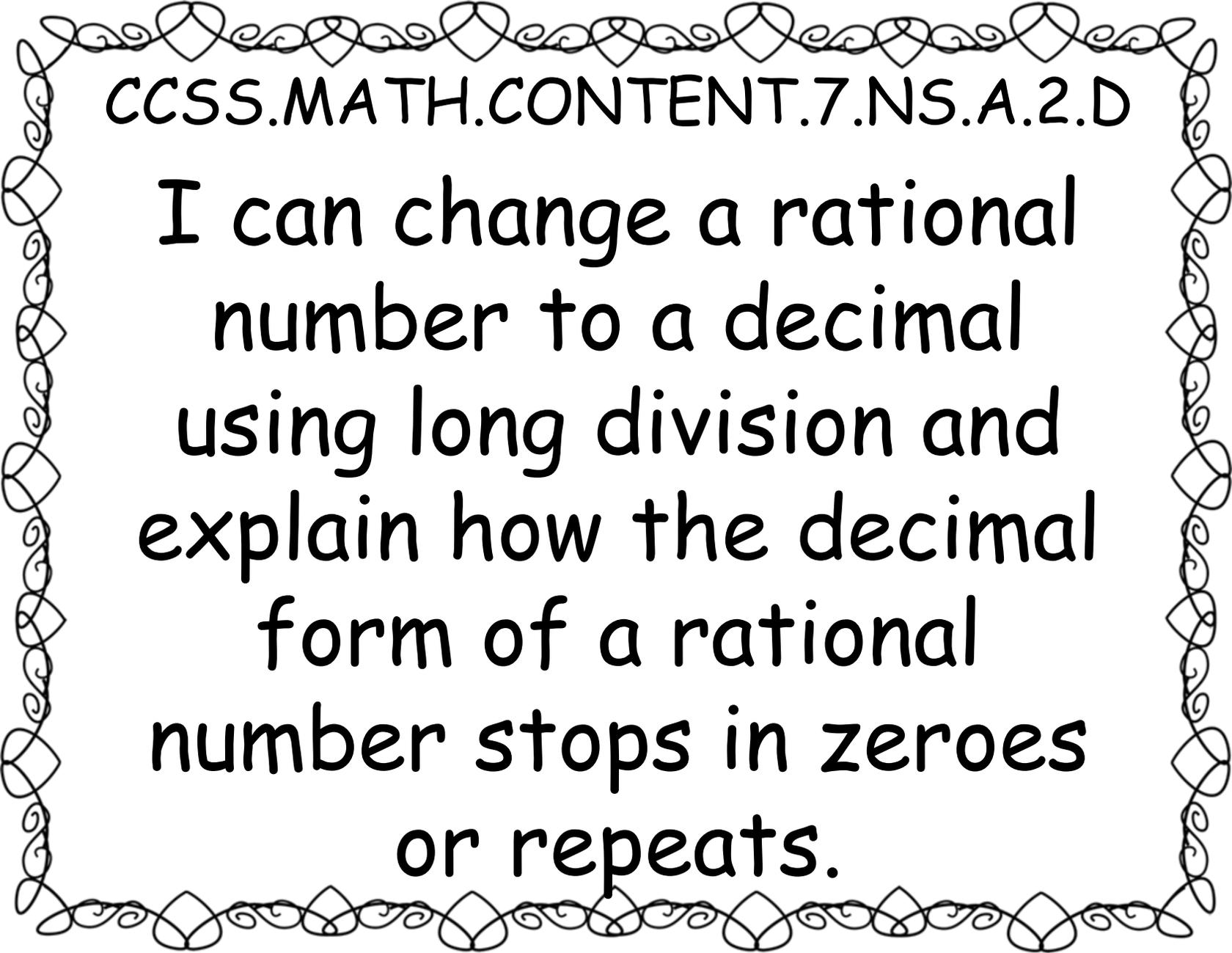
CCSS.MATH.CONTENT.7.NS.A.2.B

I can use the quotient of rational numbers to describe real-world situations.
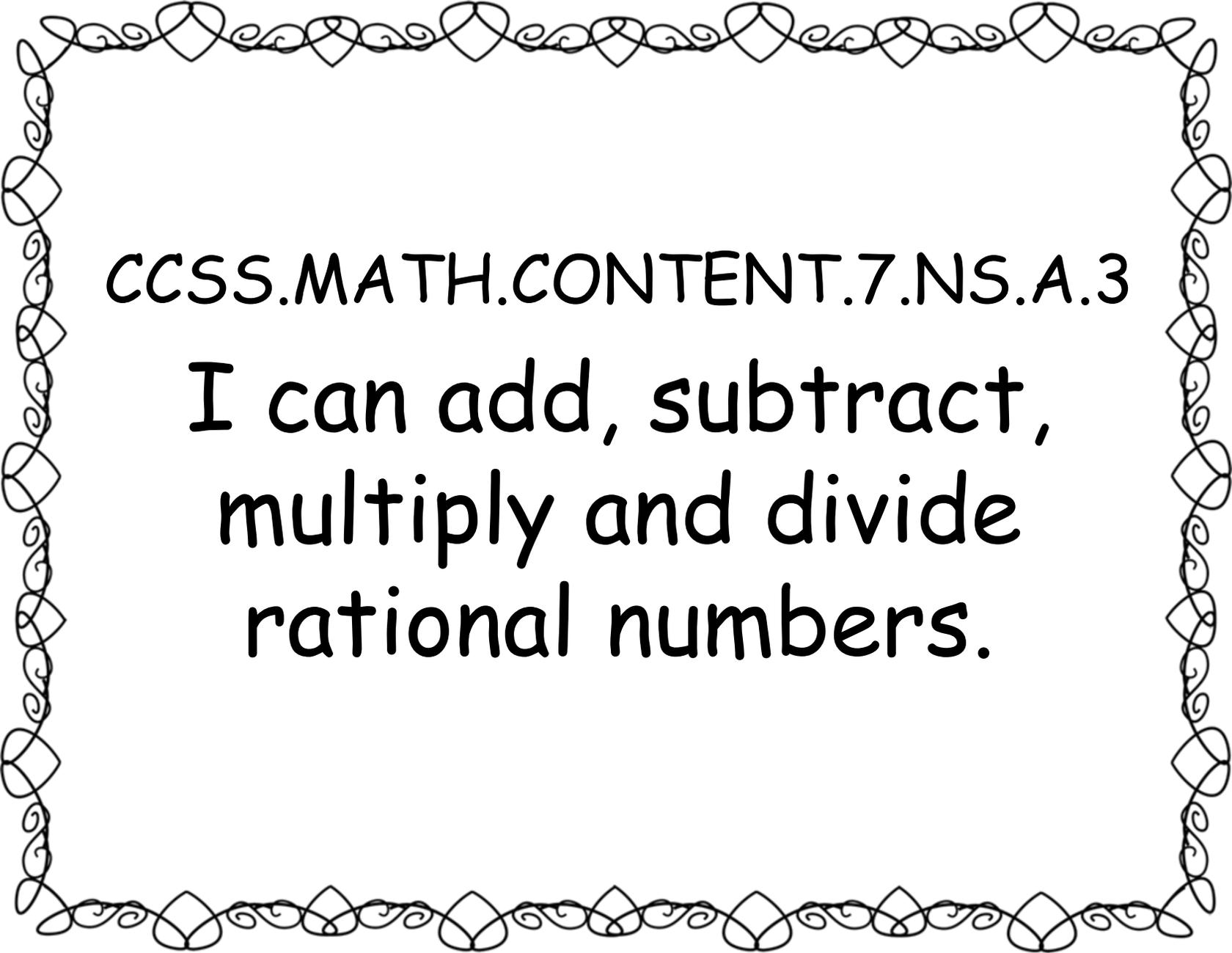
CCSS.MATH.CONTENT.7.NS.A.2.C

I can identify how properties of operations can be used to multiply and divide rational numbers

(ex: distributive property, multiplicative inverse property, multiplicative identity, commutative property for multiplication and associative property for multiplication).
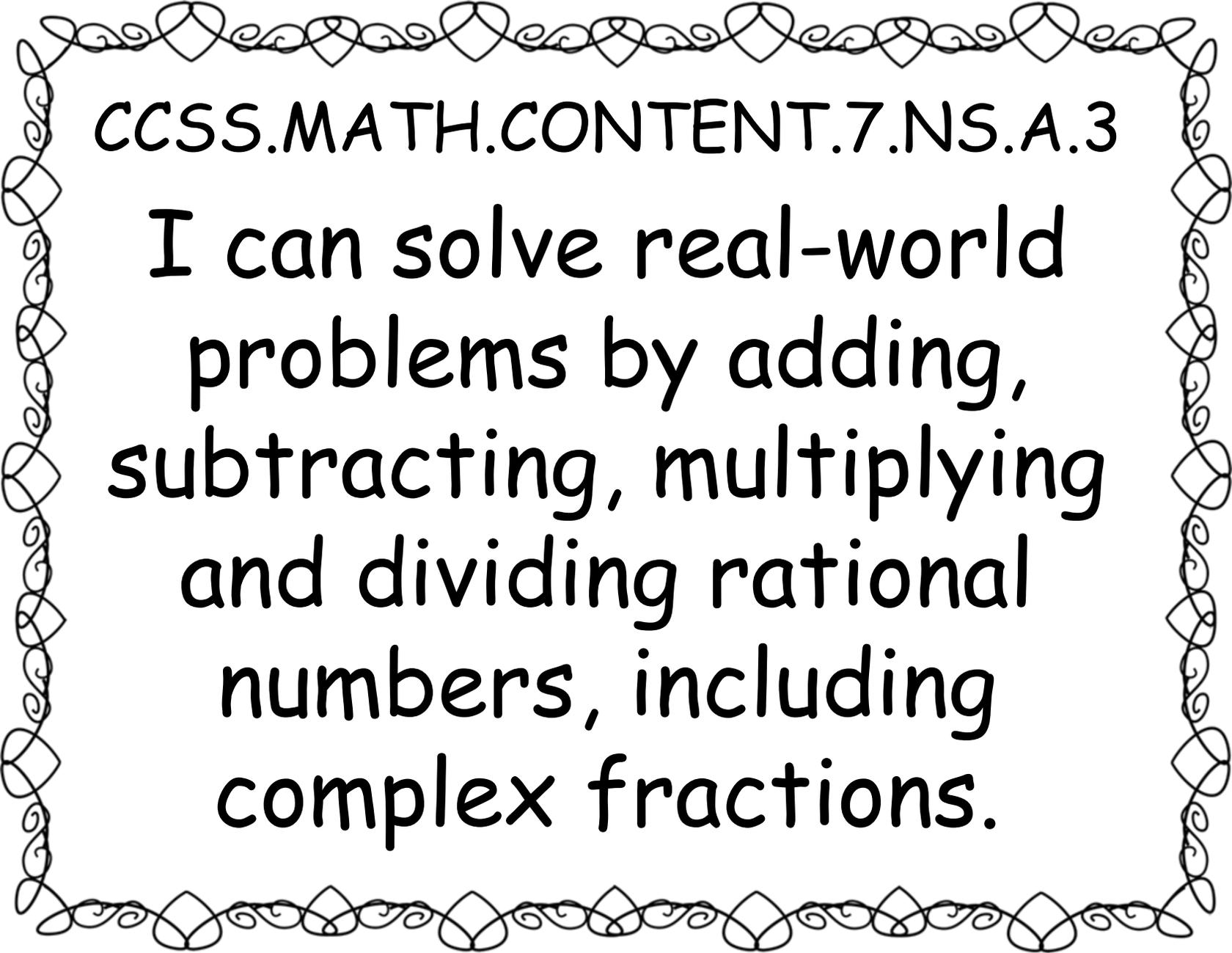
CCSS.MATH.CONTENT.7.NS.A.2.D

I can change a rational number to a decimal using long division and explain how the decimal form of a rational number stops in zeroes or repeats.
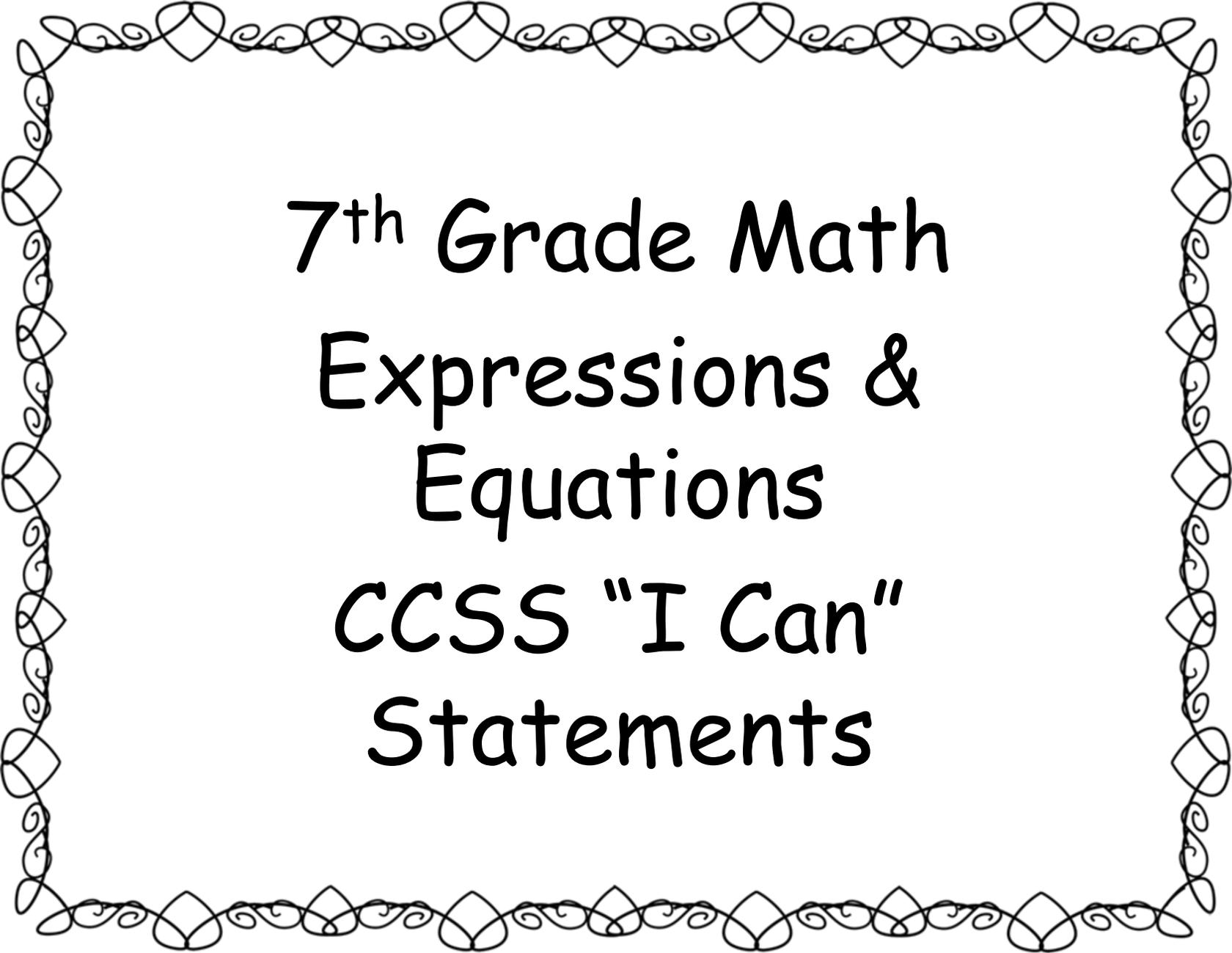
CCSS.MATH.CONTENT.7.NS.A.3

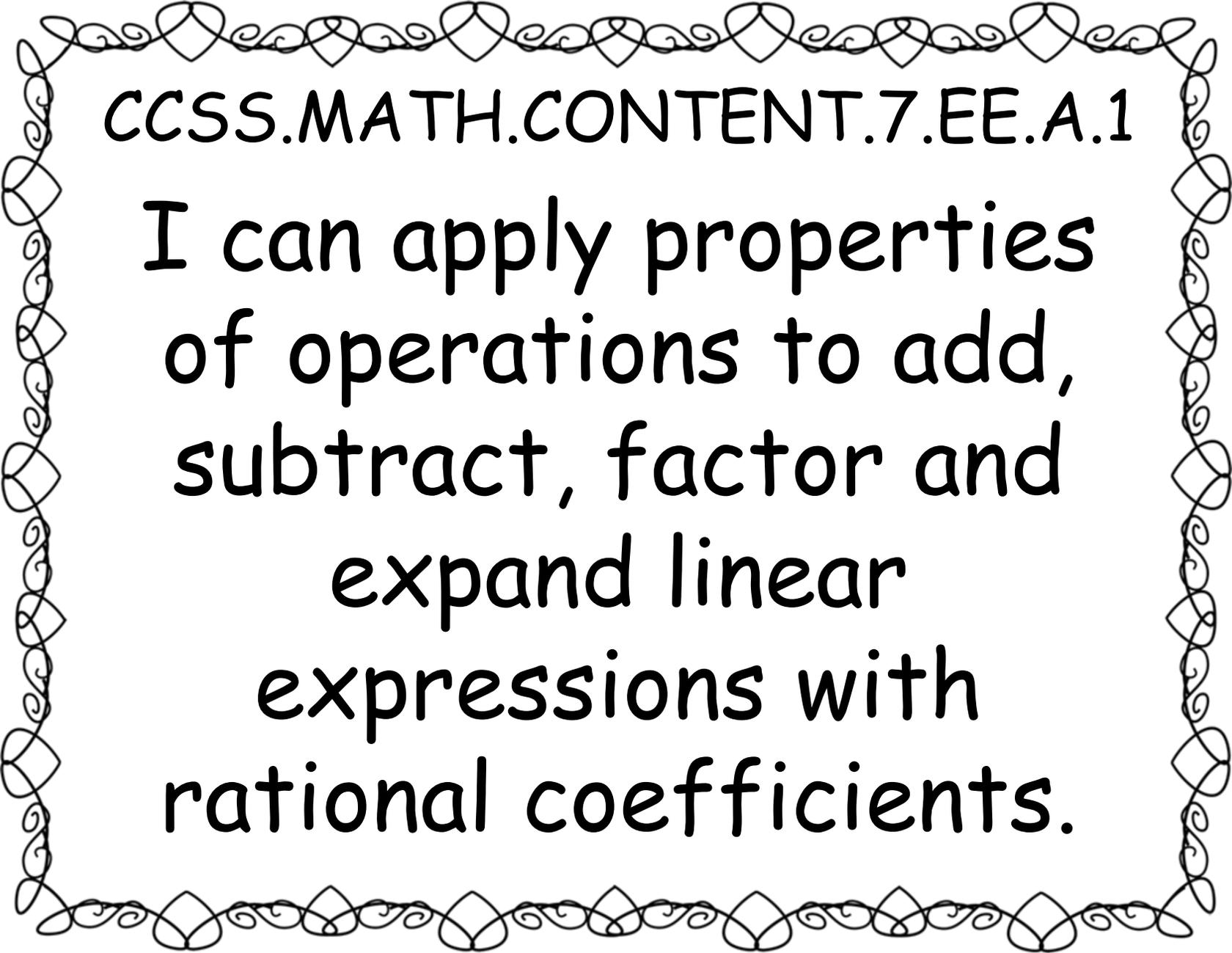I can add, subtract, multiply and divide rational numbers.

CCSS.MATH.CONTENT.7.NS.A.3

I can solve real-world problems by adding, subtracting, multiplying and dividing rational numbers, including complex fractions.
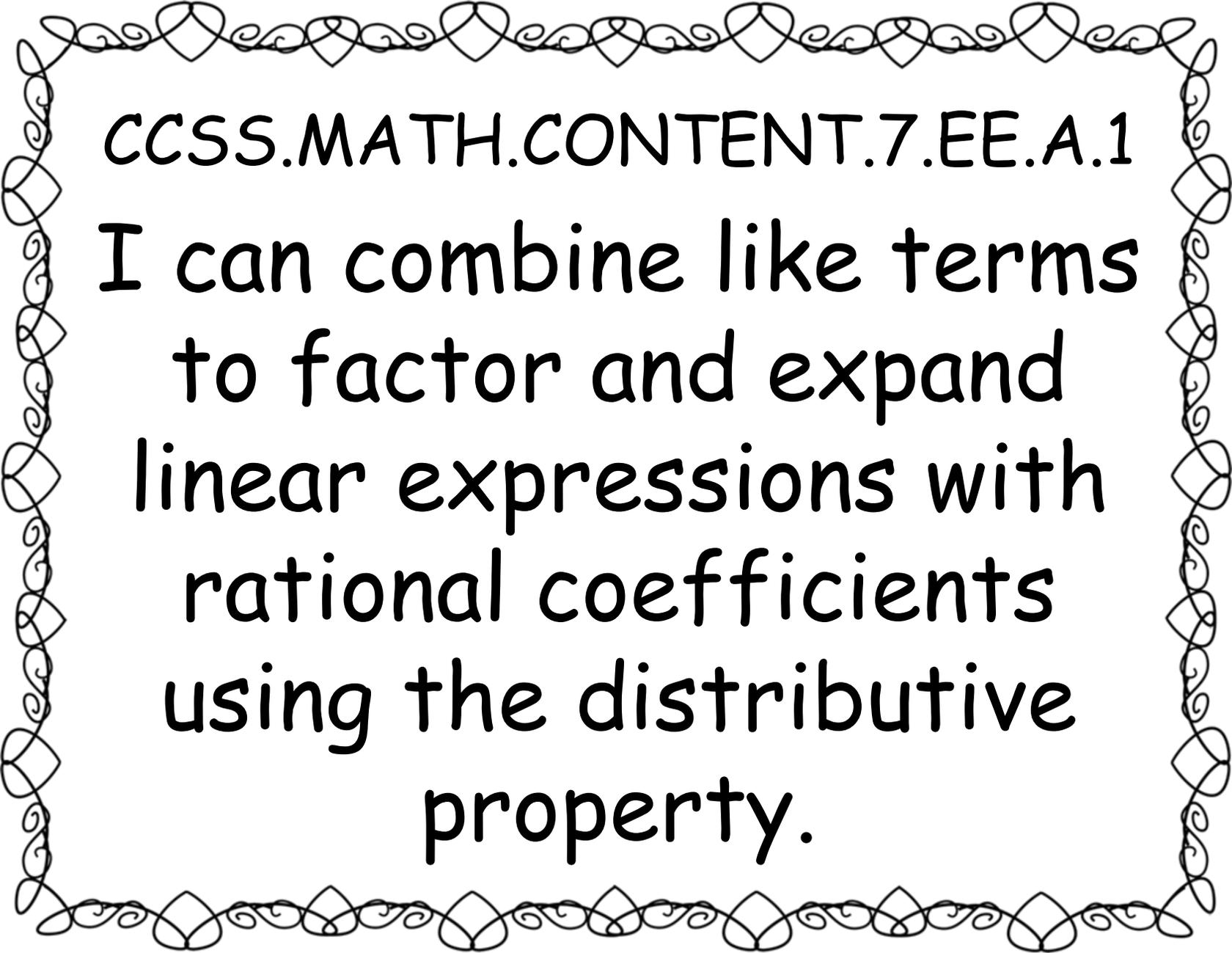
7th Grade Math

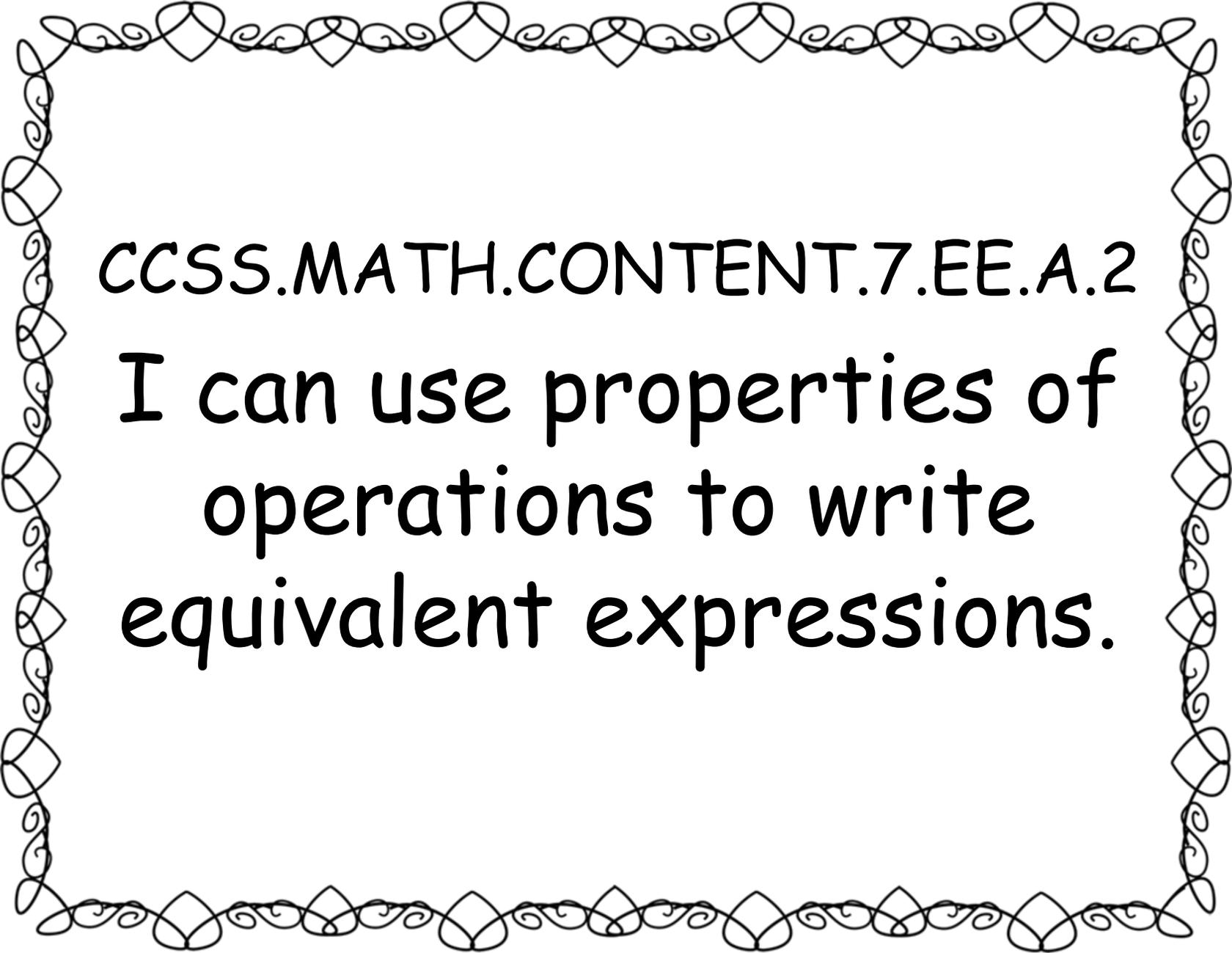# Expressions & Equations

CCSS "I Can" Statements

CCSS.MATH.CONTENT.7.EE.A.1

I can apply properties of operations to add, subtract, factor and expand linear expressions with rational coefficients.
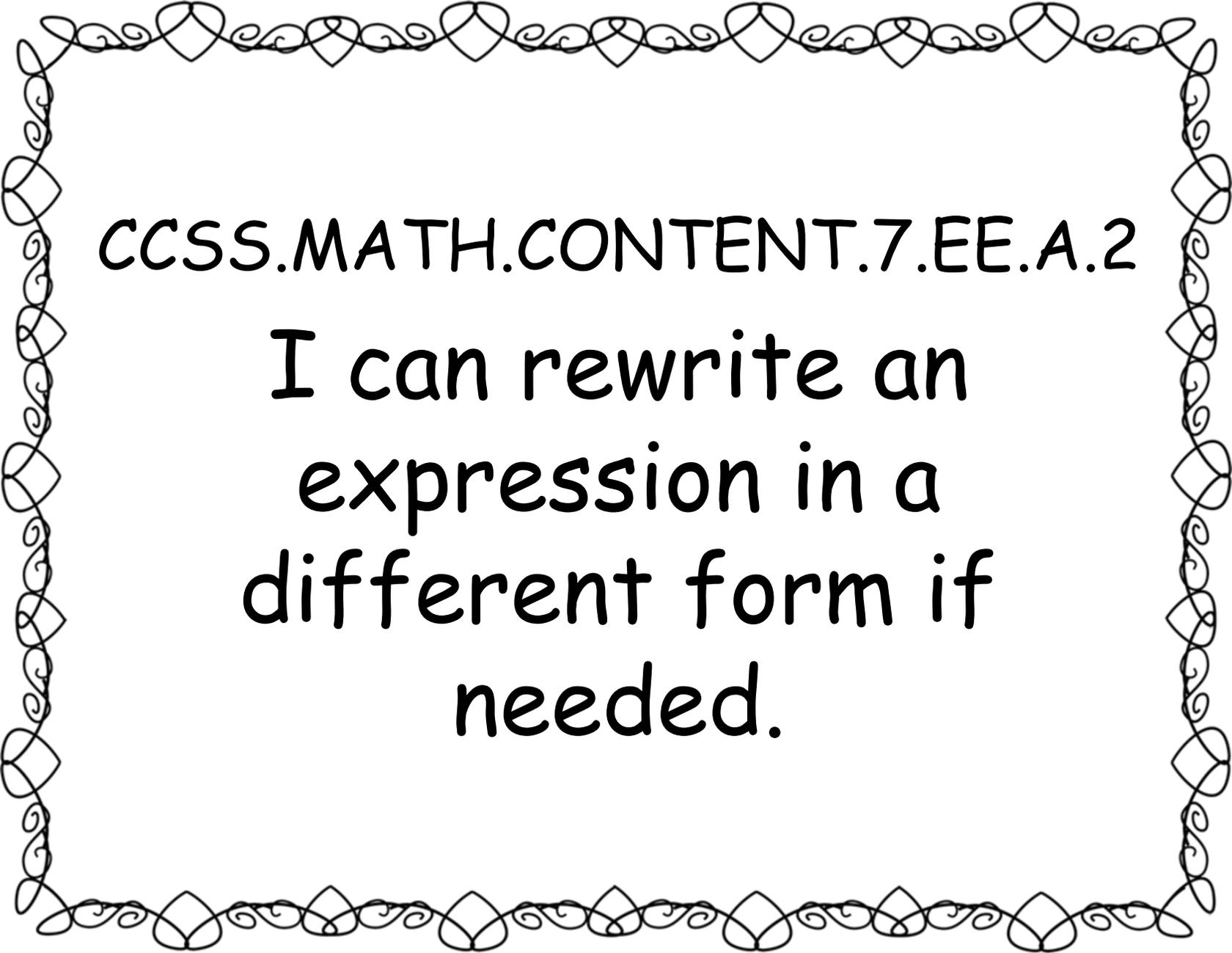
CCSS.MATH.CONTENT.7.EE.A.1

I can combine like terms to factor and expand linear expressions with rational coefficients using the distributive property.
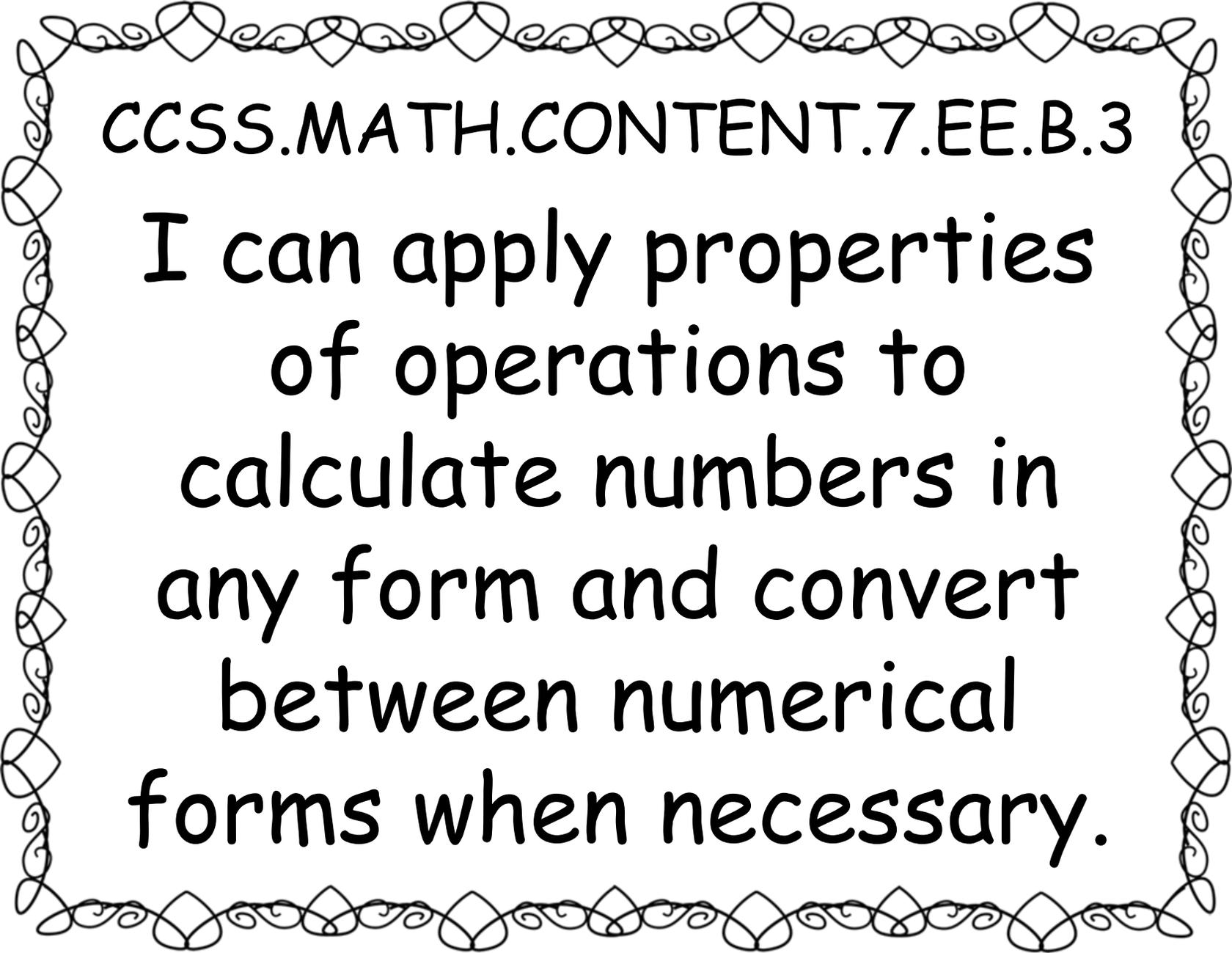
CCSS.MATH.CONTENT.7.EE.A.2

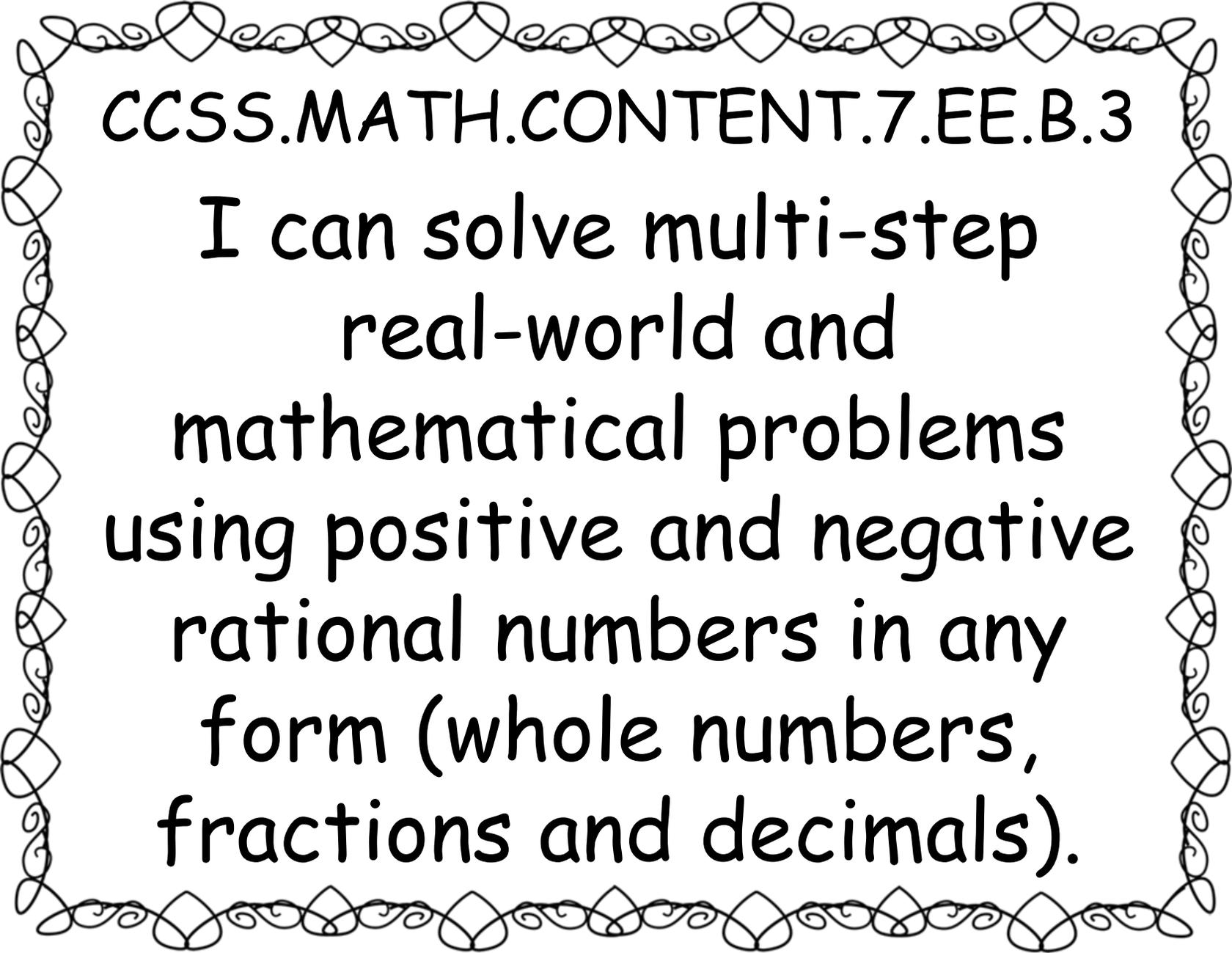I can use properties of operations to write equivalent expressions.

CCSS.MATH.CONTENT.7.EE.A.2

I can rewrite an expression in a different form if needed.

CCSS.MATH.CONTENT.7.EE.B.3

I can apply properties of operations to calculate numbers in any form and convert between numerical forms when necessary.
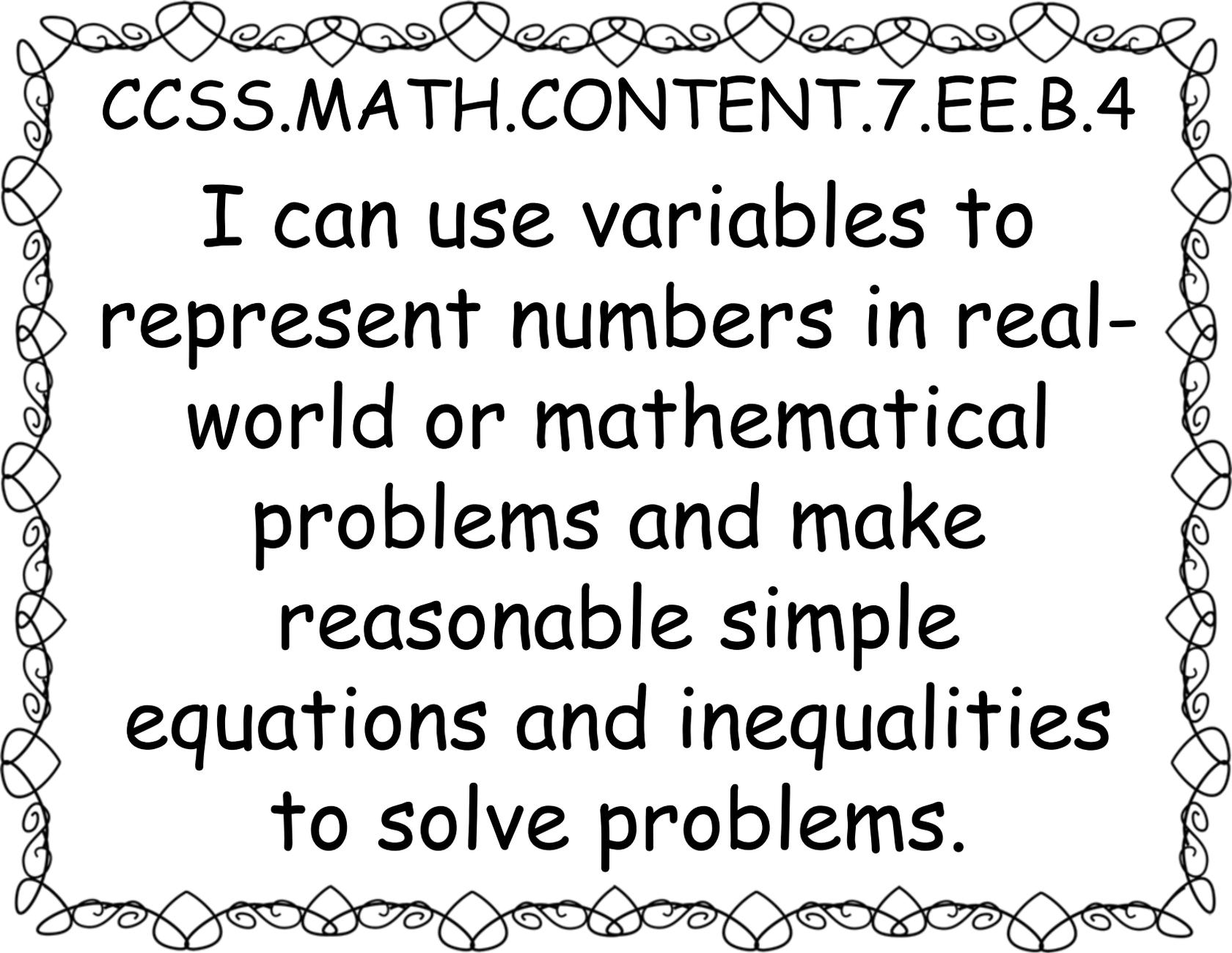
CCSS.MATH.CONTENT.7.EE.B.3

I can solve multi-step real-world and mathematical problems using positive and negative rational numbers in any form (whole numbers, fractions and decimals).
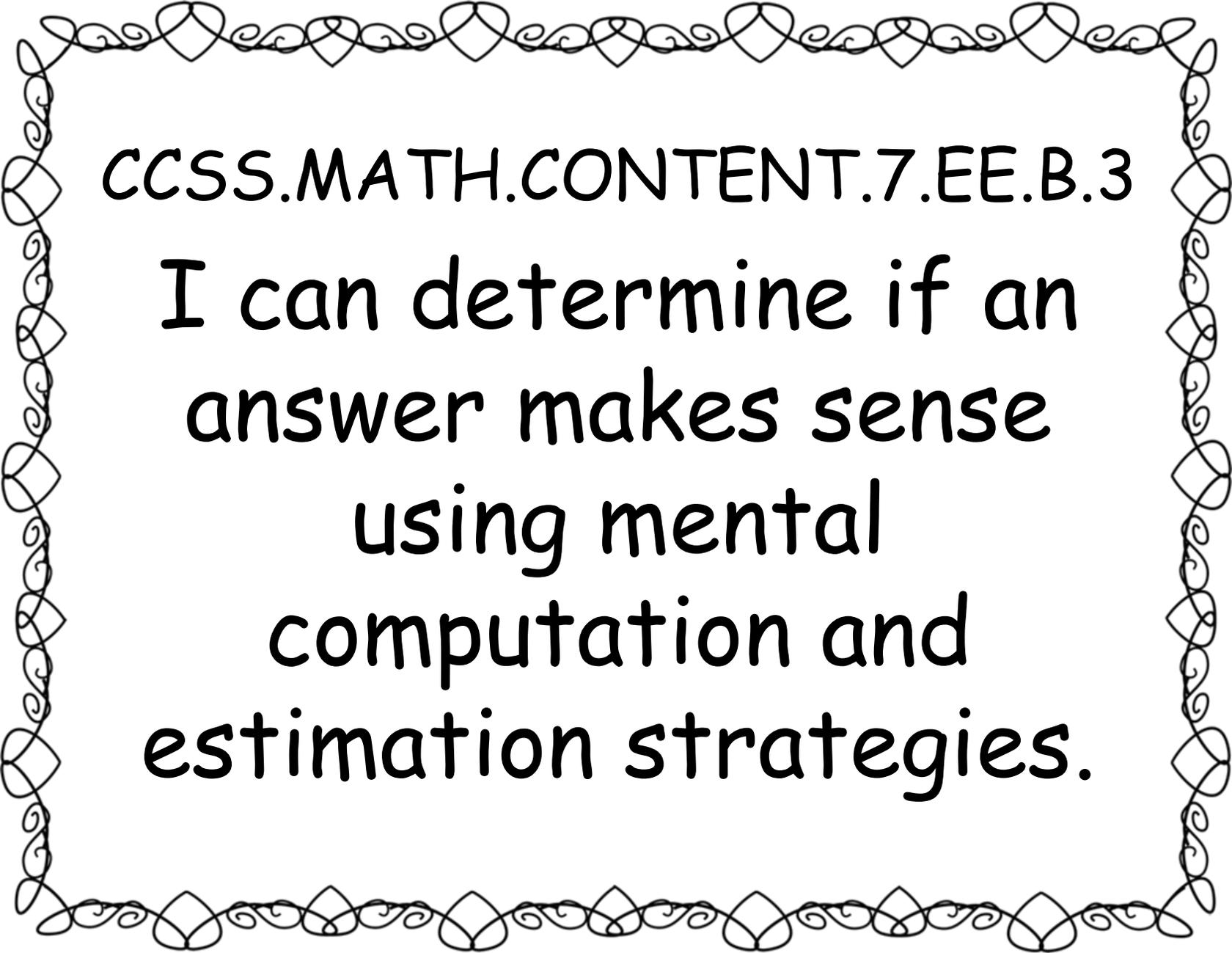
CCSS.MATH.CONTENT.7.EE.B.3

I can determine if an answer makes sense using mental computation and estimation strategies.
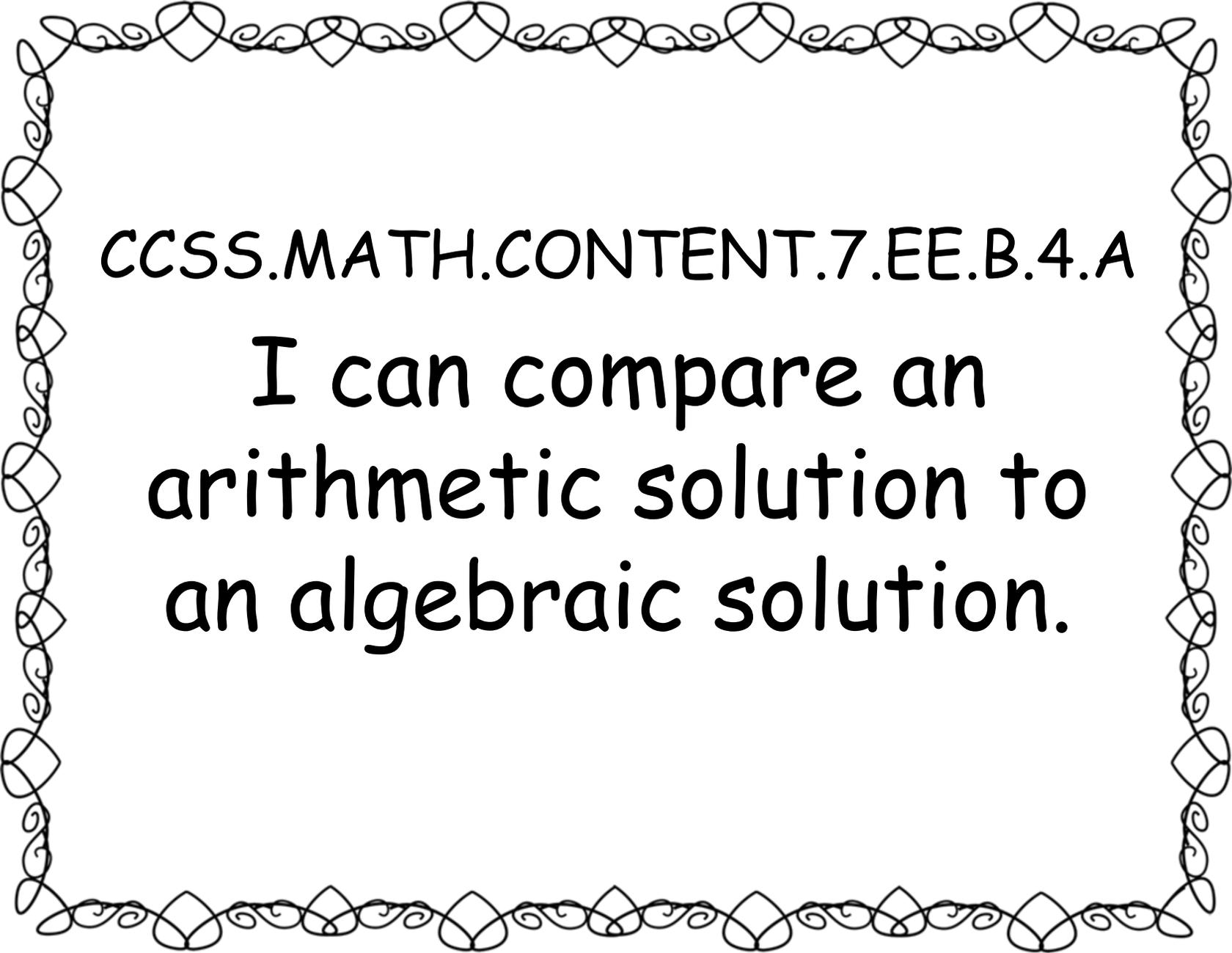
CCSS.MATH.CONTENT.7.EE.B.4

I can use variables to represent numbers in real-world or mathematical problems and make reasonable simple equations and inequalities to solve problems.

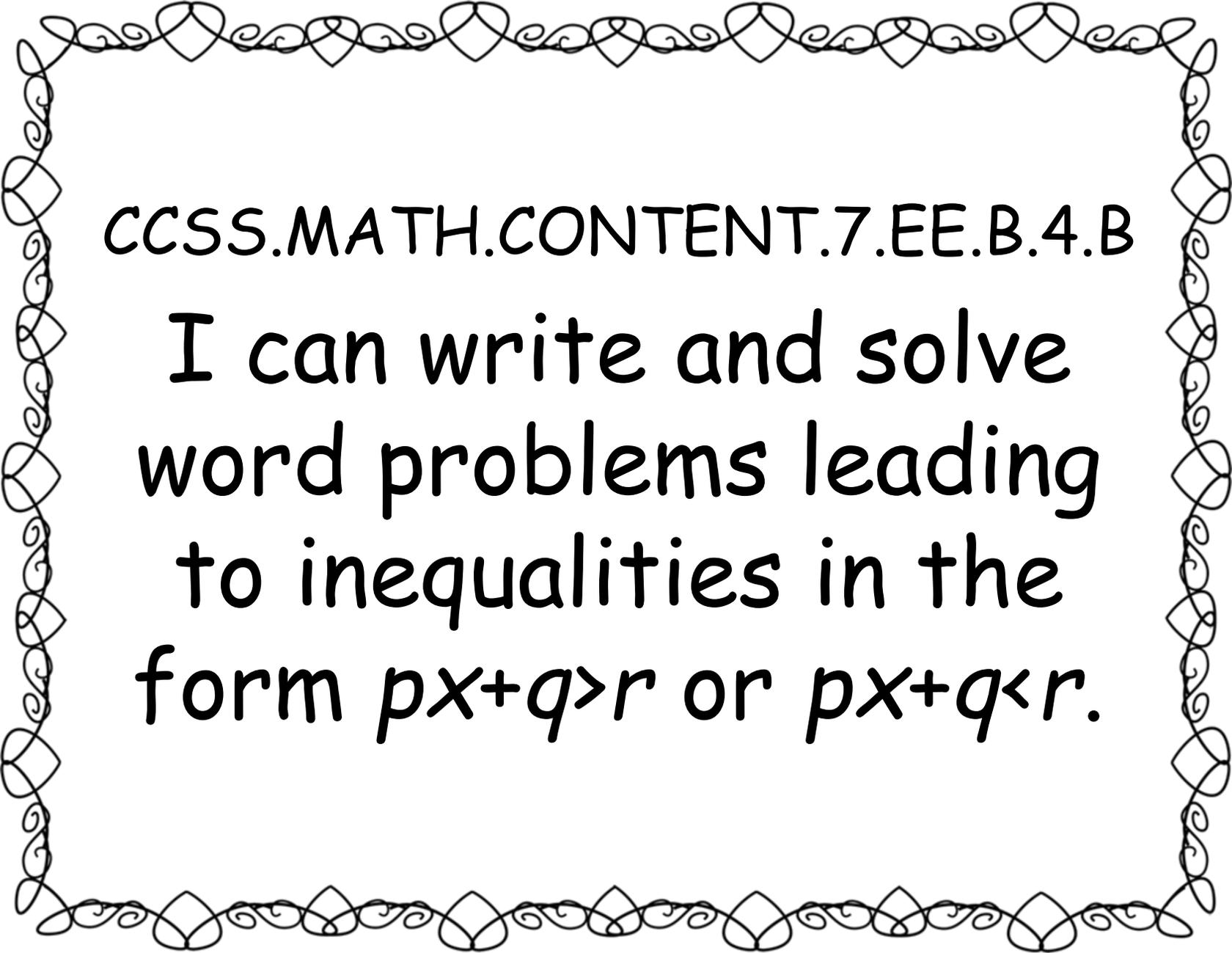I can identify and fluently solve equations in the form *px+q=r* and *p(x+q)=r*

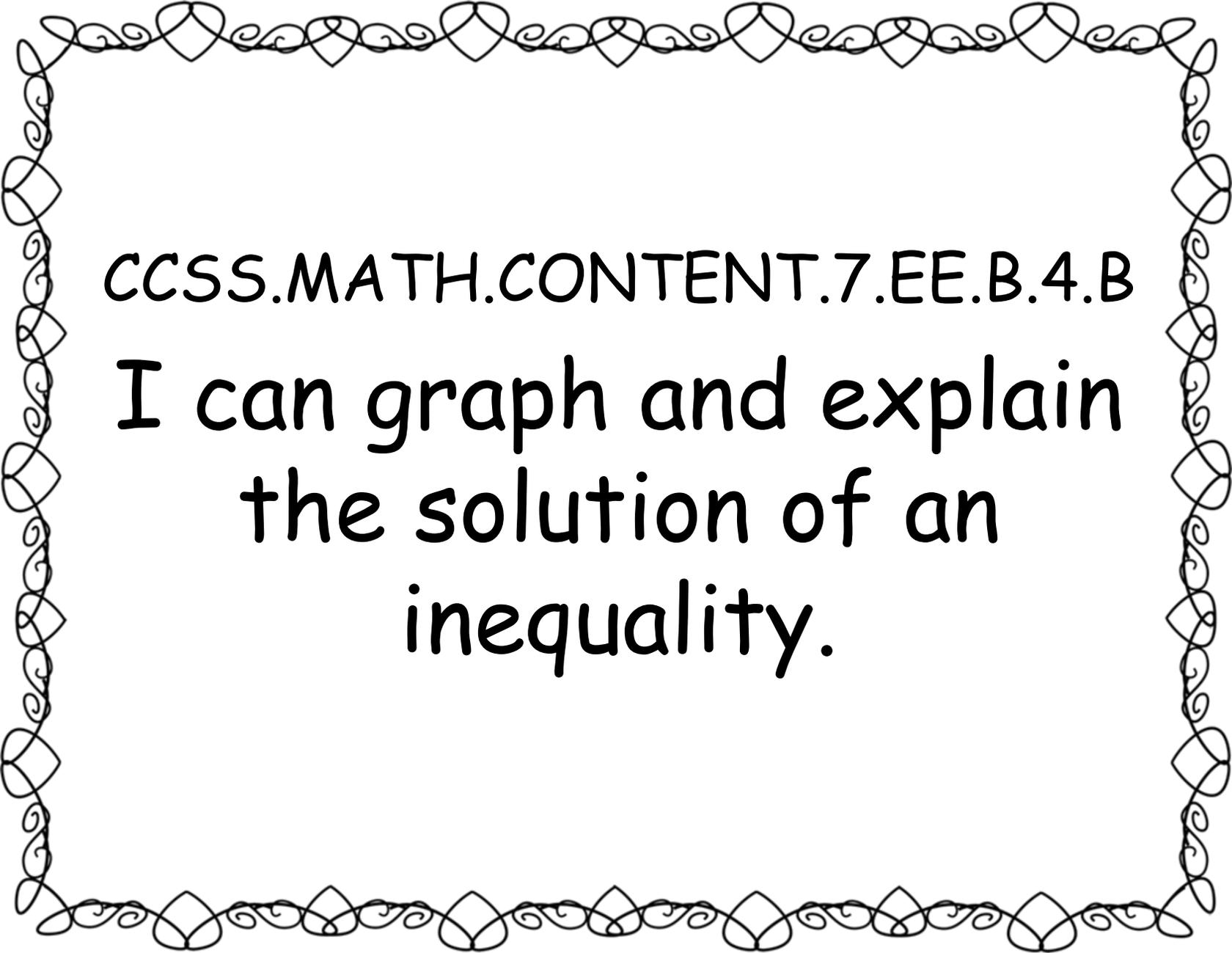(ex: The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?).

CCSS.MATH.CONTENT.7.EE.B.4.A

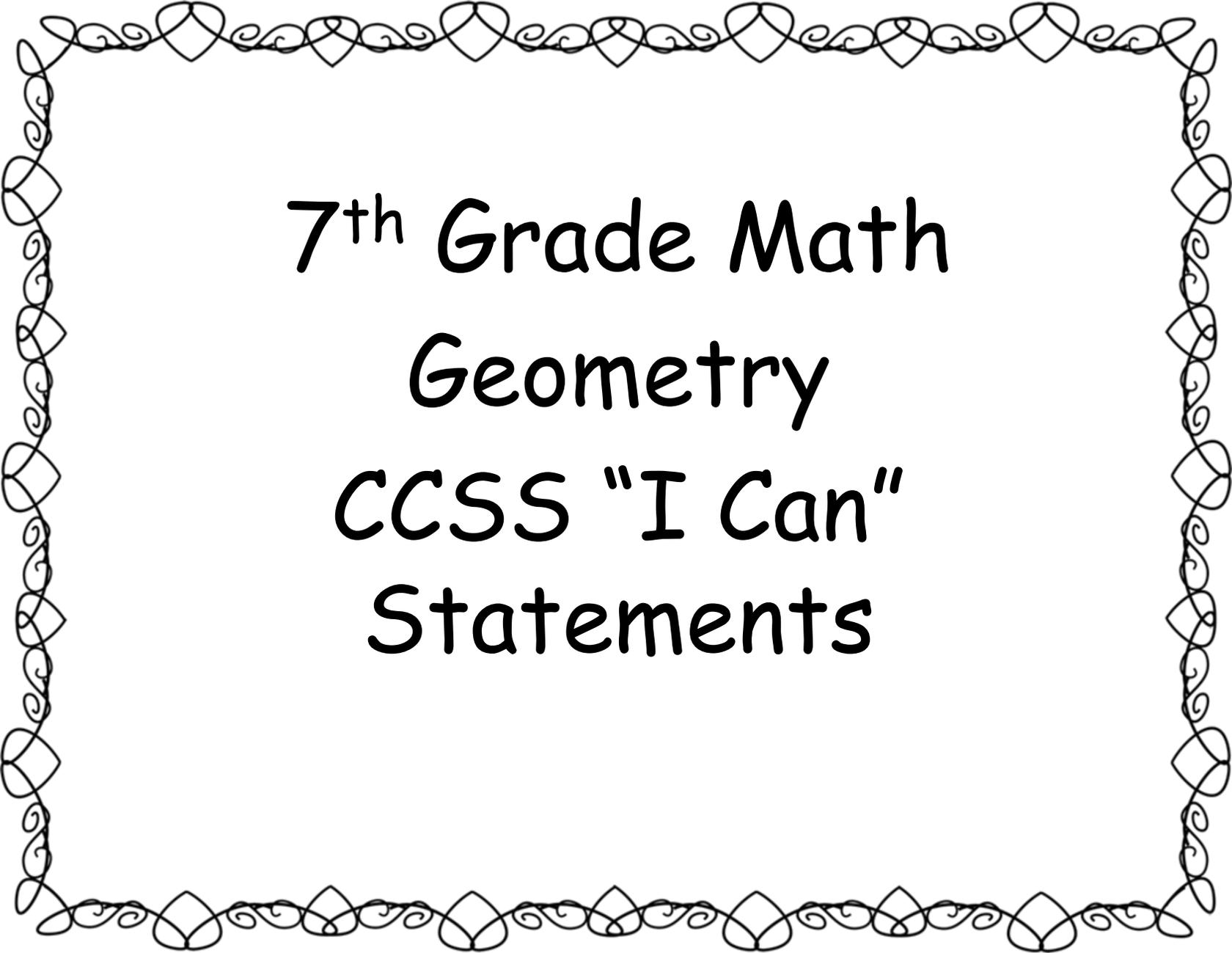I can compare an arithmetic solution to an algebraic solution.

CCSS.MATH.CONTENT.7.EE.B.4.B

I can write and solve word problems leading to inequalities in the form *px+q>r* or *px+q<r*.
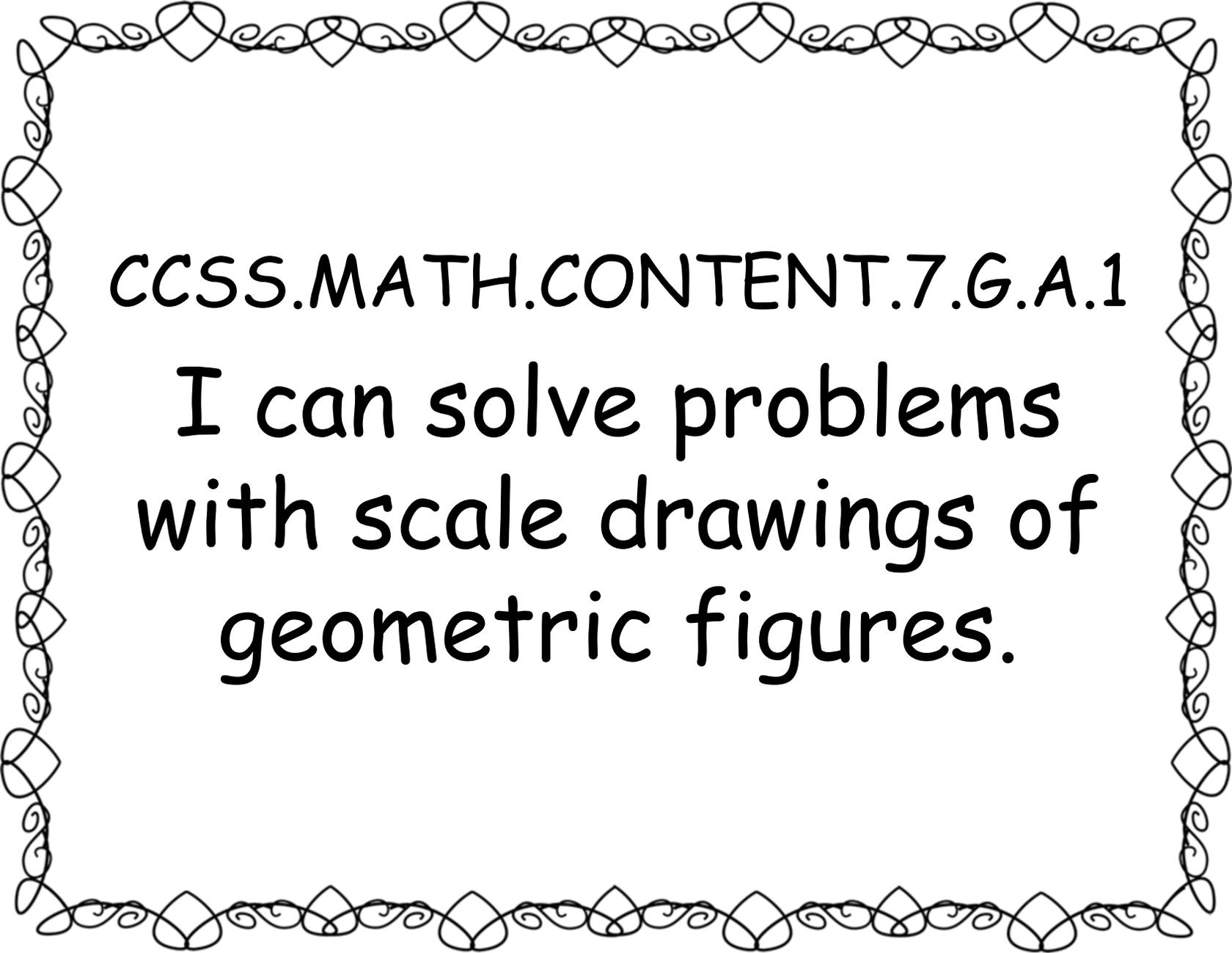
CCSS.MATH.CONTENT.7.EE.B.4.B

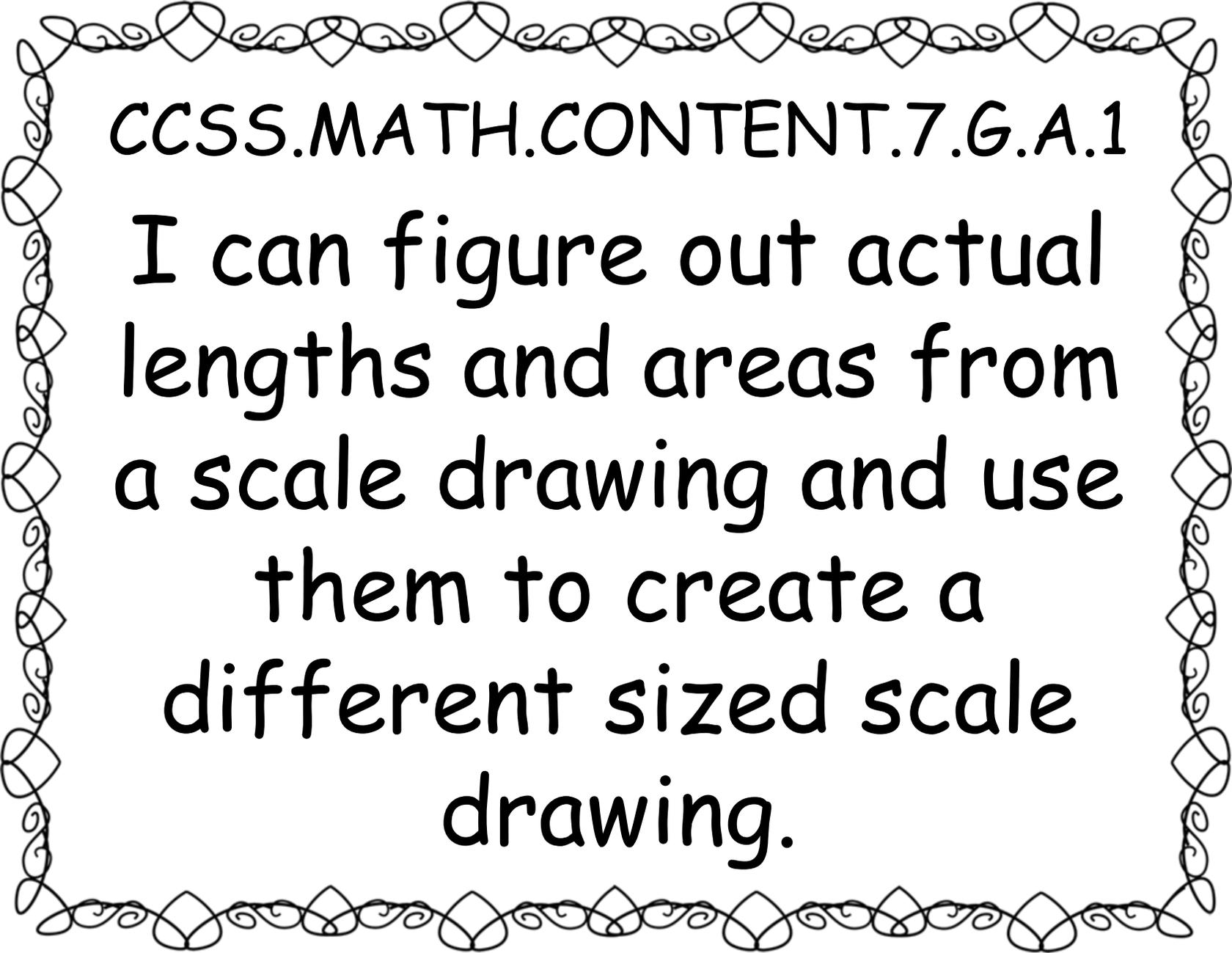I can graph and explain the solution of an inequality.

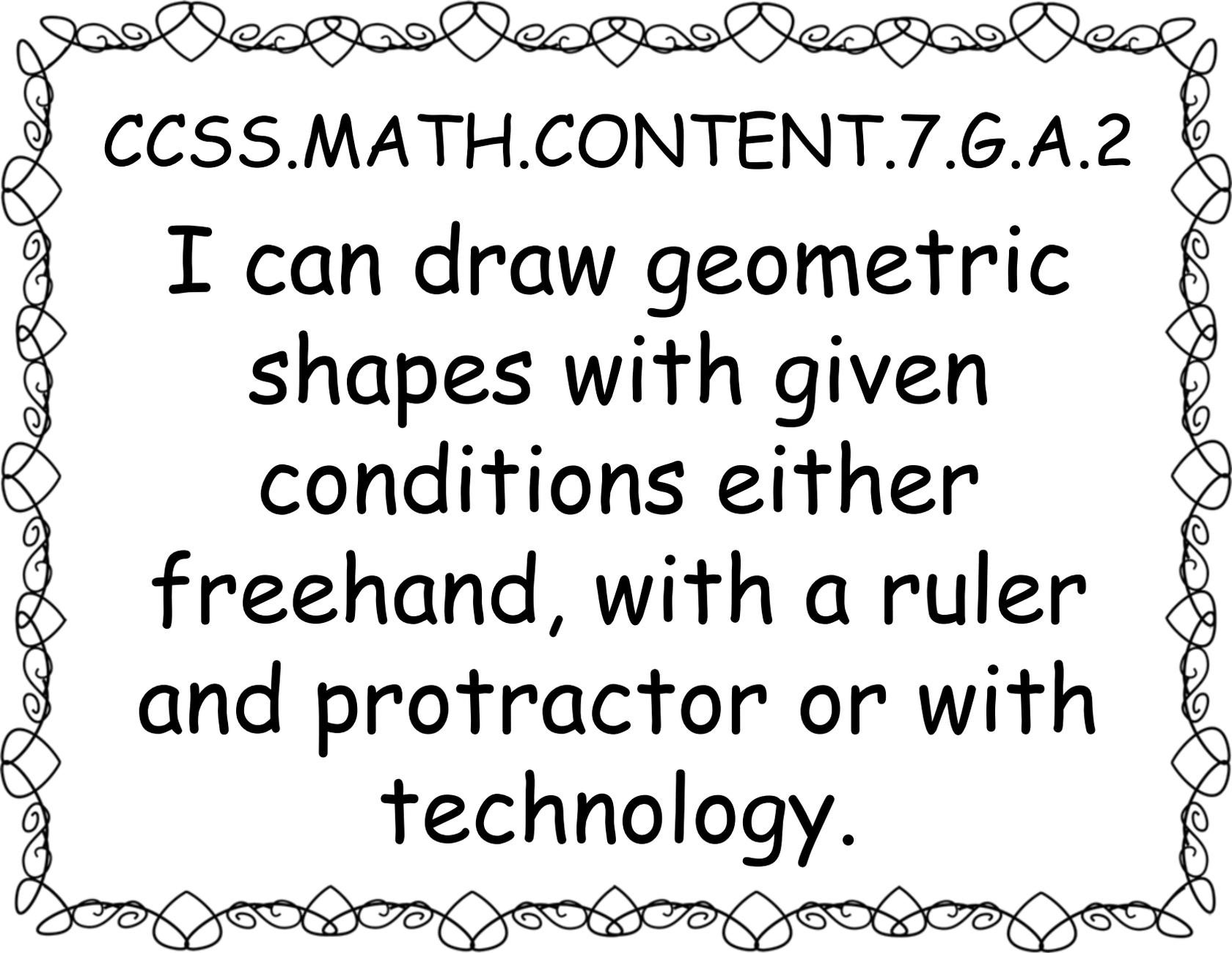# 7ᵗʰ Grade Math Geometry CCSS "I Can" Statements

CCSS.MATH.CONTENT.7.G.A.1

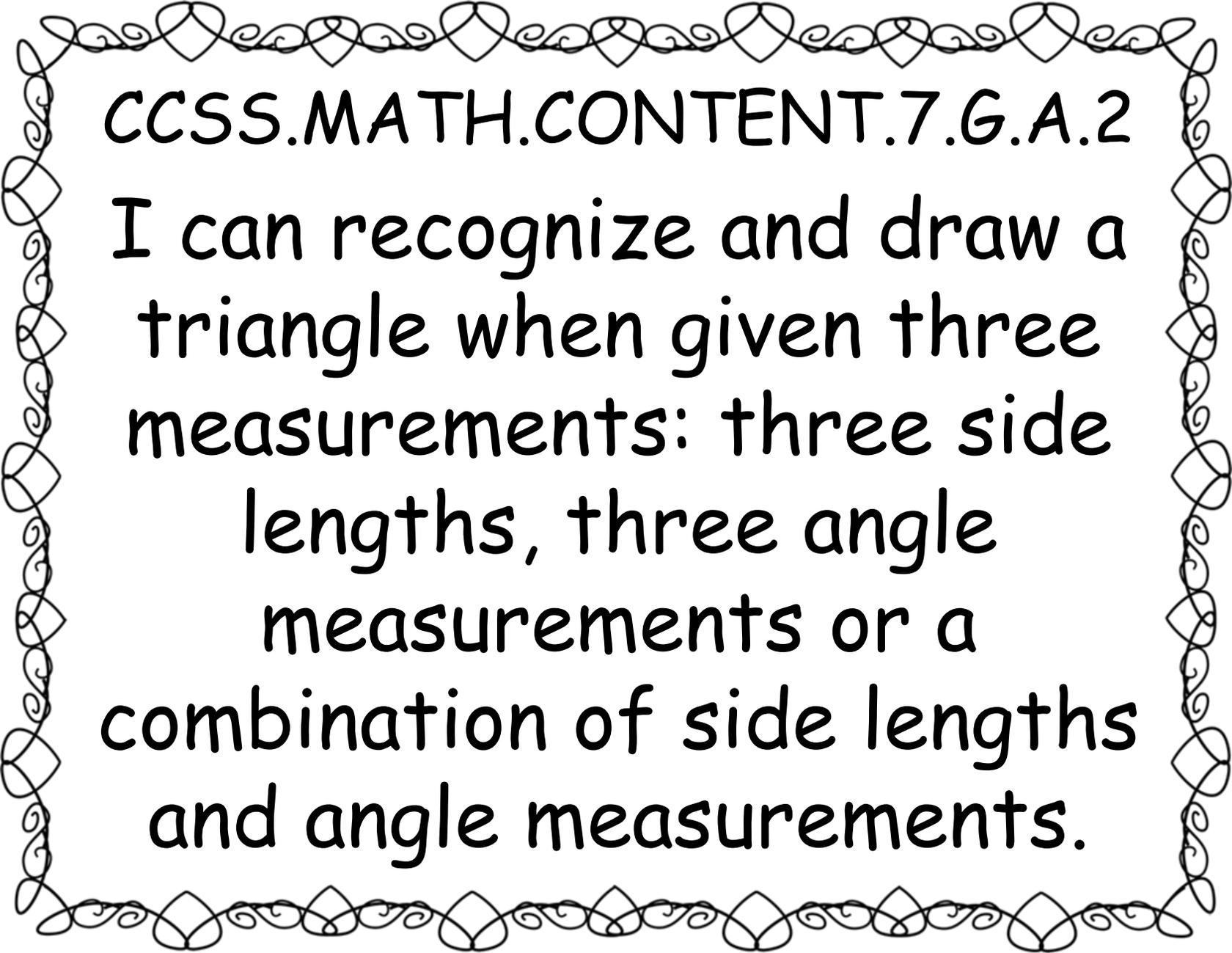I can solve problems with scale drawings of geometric figures.

CCSS.MATH.CONTENT.7.G.A.1

I can figure out actual lengths and areas from a scale drawing and use them to create a different sized scale drawing.
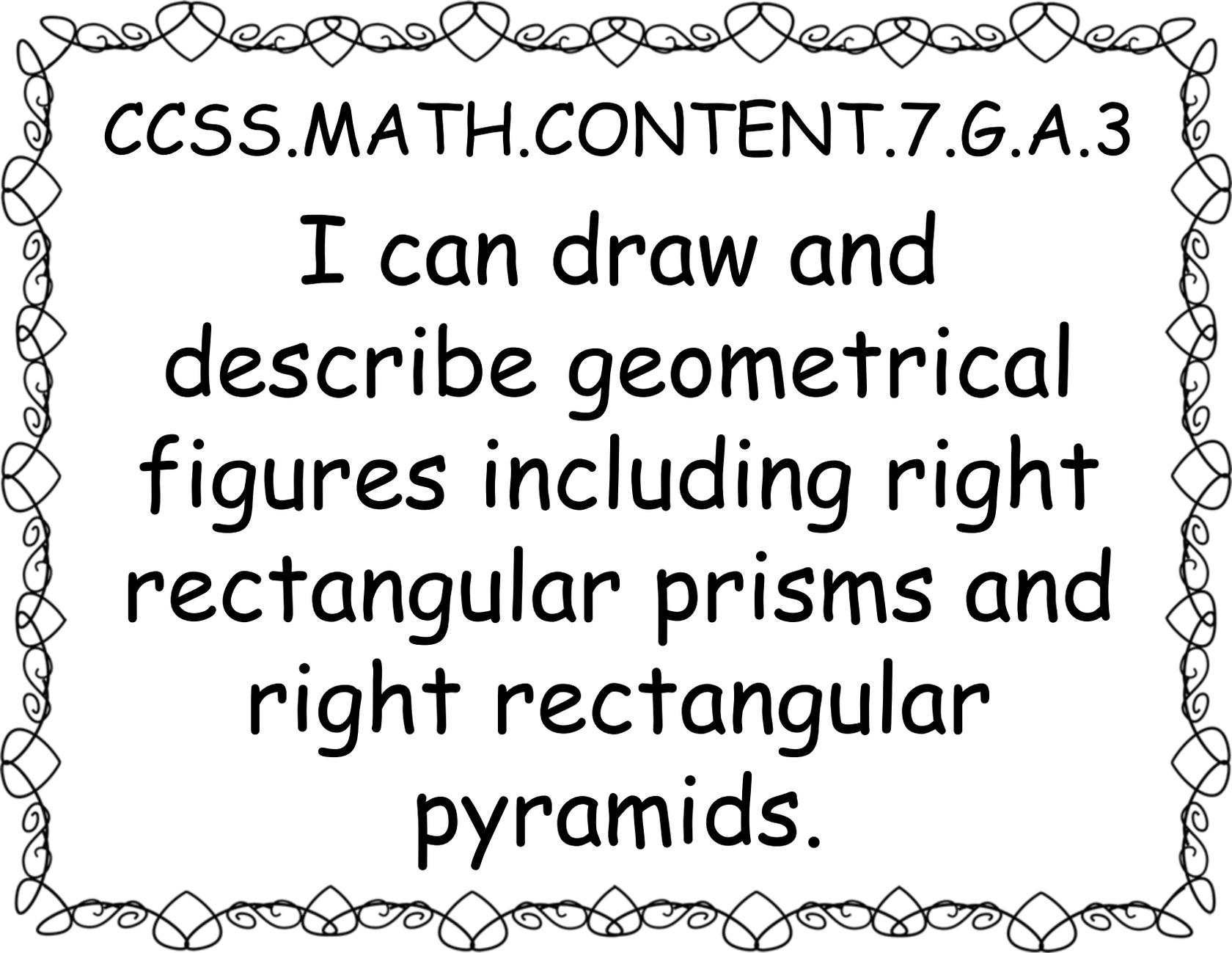
CCSS.MATH.CONTENT.7.G.A.2

I can draw geometric shapes with given conditions either freehand, with a ruler and protractor or with technology.
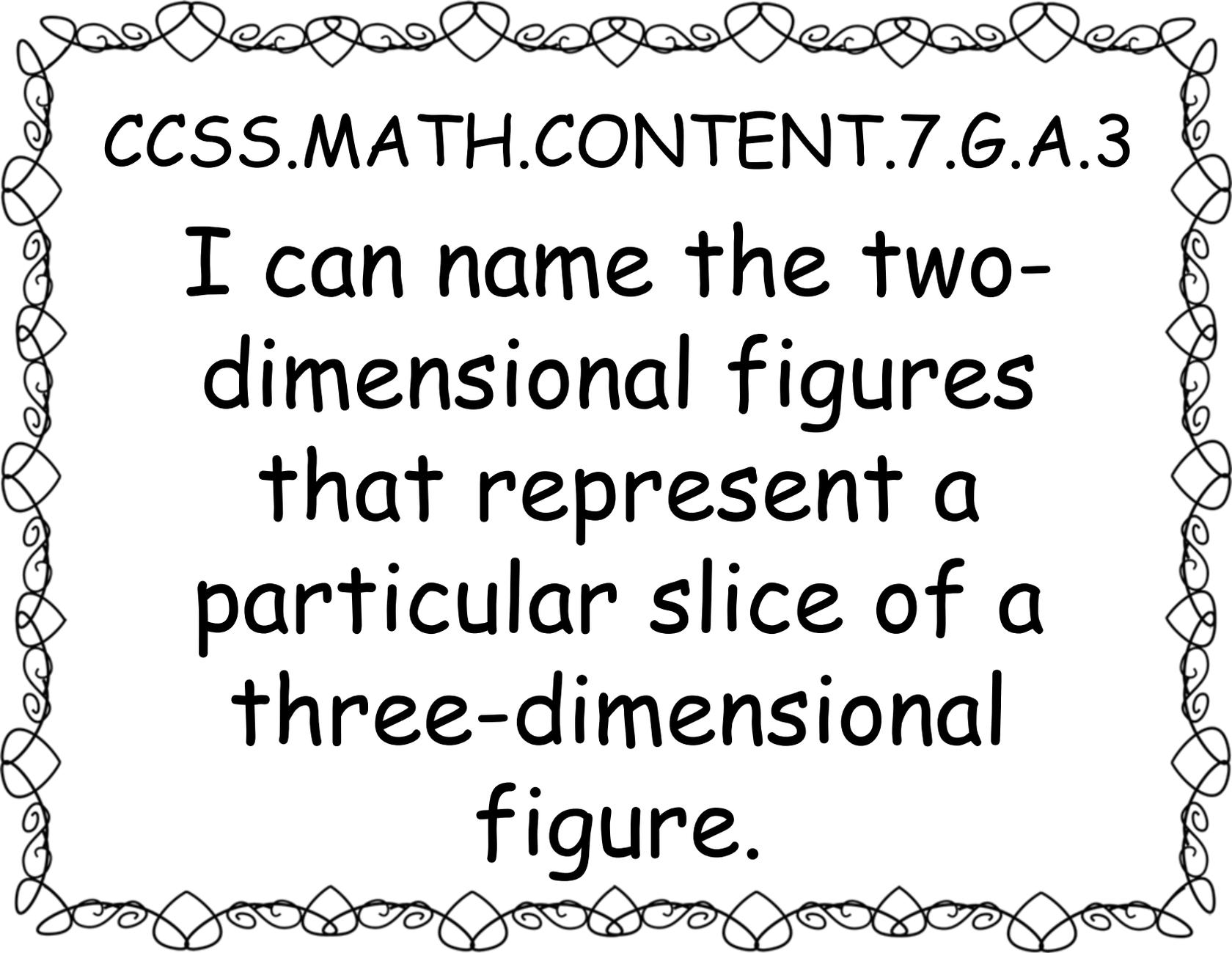
CCSS.MATH.CONTENT.7.G.A.2

I can recognize and draw a triangle when given three measurements: three side lengths, three angle measurements or a combination of side lengths and angle measurements.
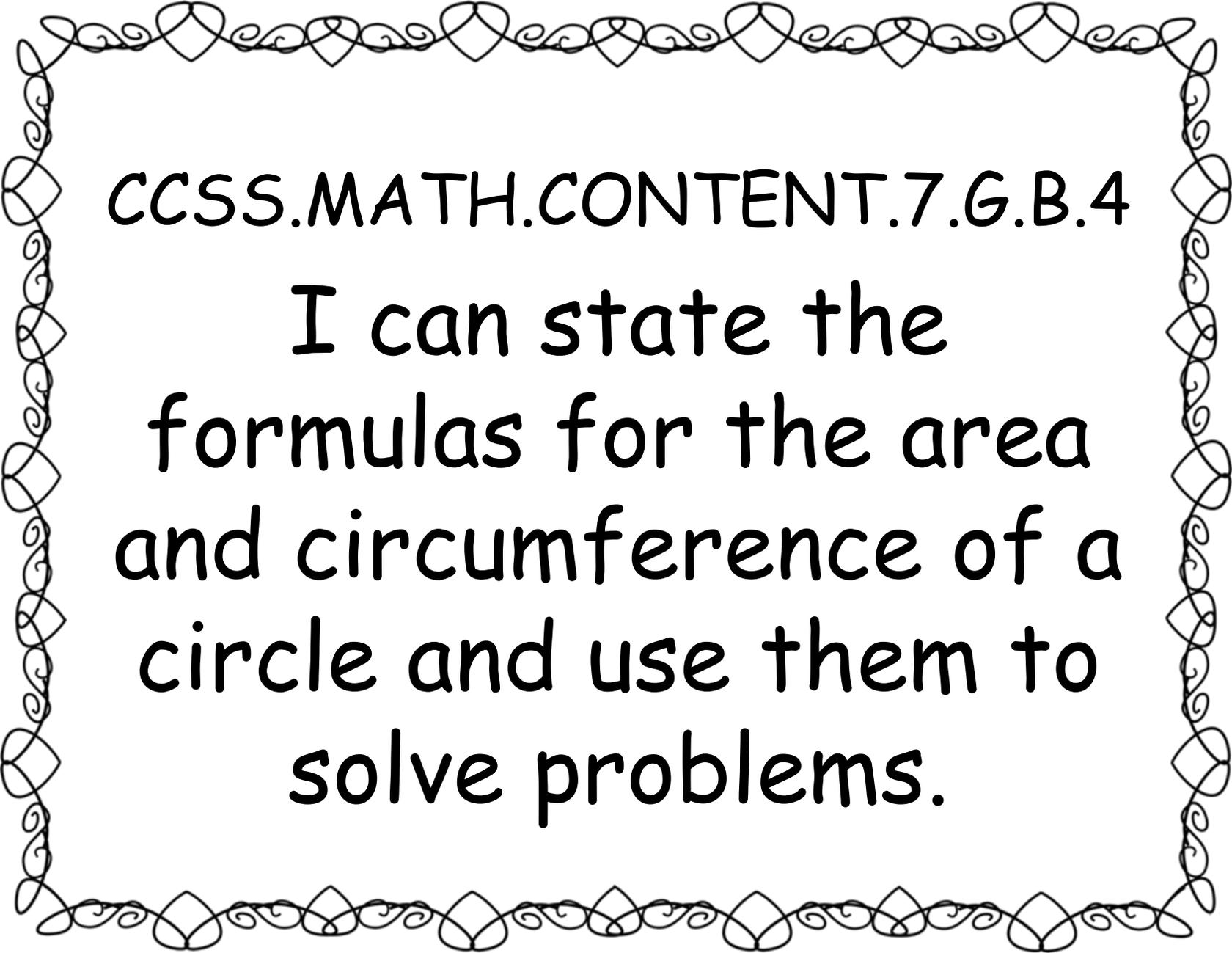
CCSS.MATH.CONTENT.7.G.A.3

I can draw and describe geometrical figures including right rectangular prisms and right rectangular pyramids.
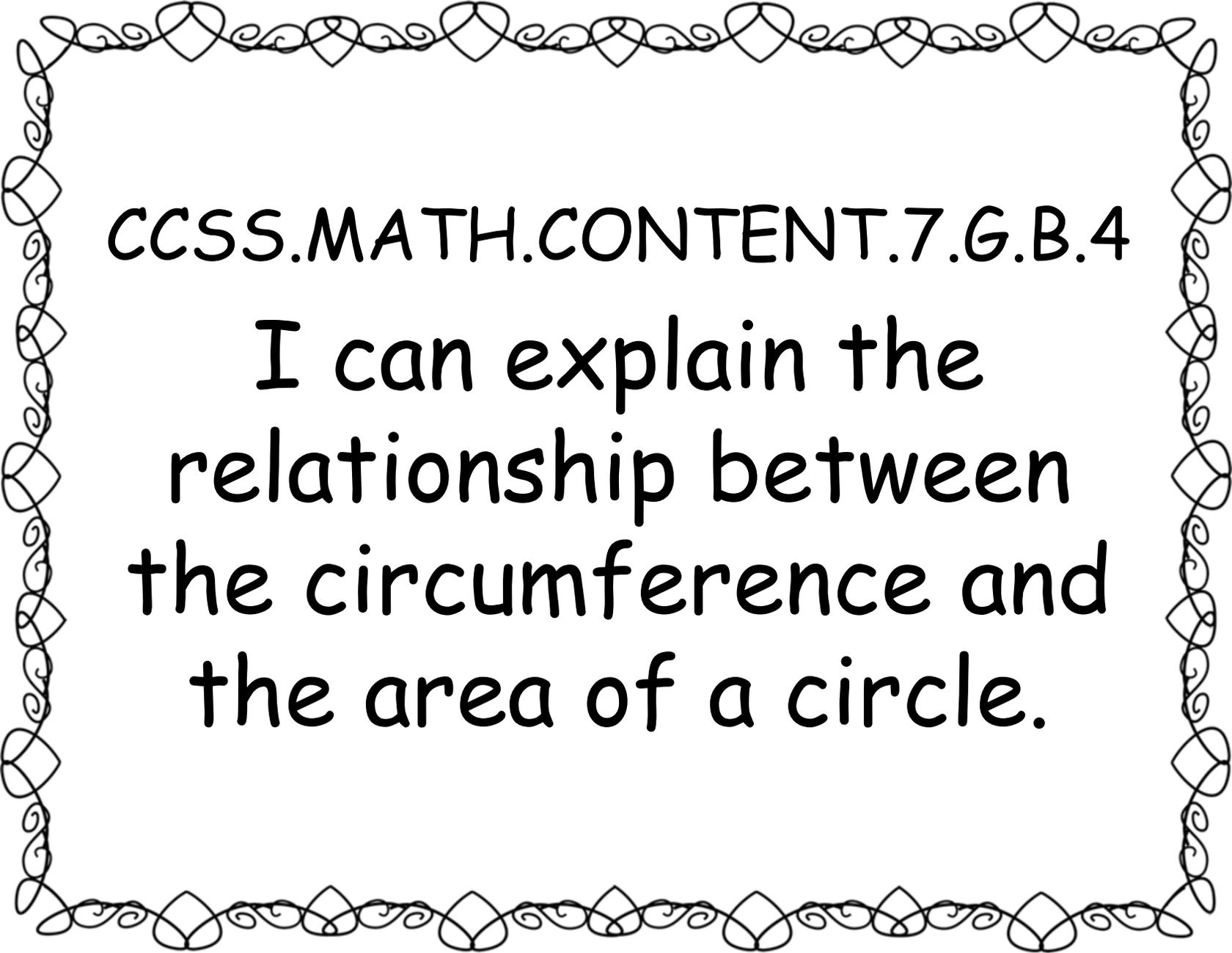
CCSS.MATH.CONTENT.7.G.A.3

I can name the two-dimensional figures that represent a particular slice of a three-dimensional figure.
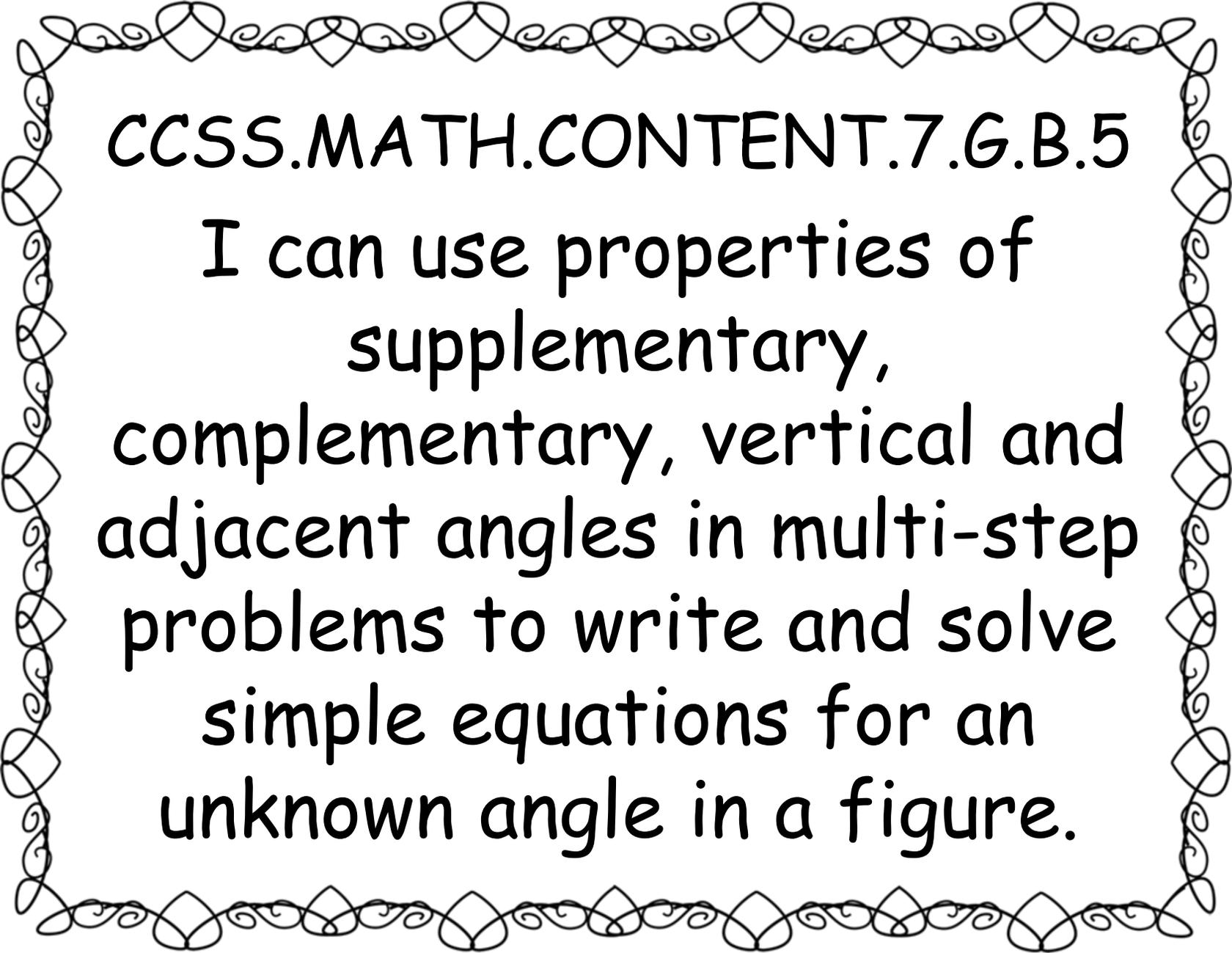
CCSS.MATH.CONTENT.7.G.B.4

I can state the formulas for the area and circumference of a circle and use them to solve problems.
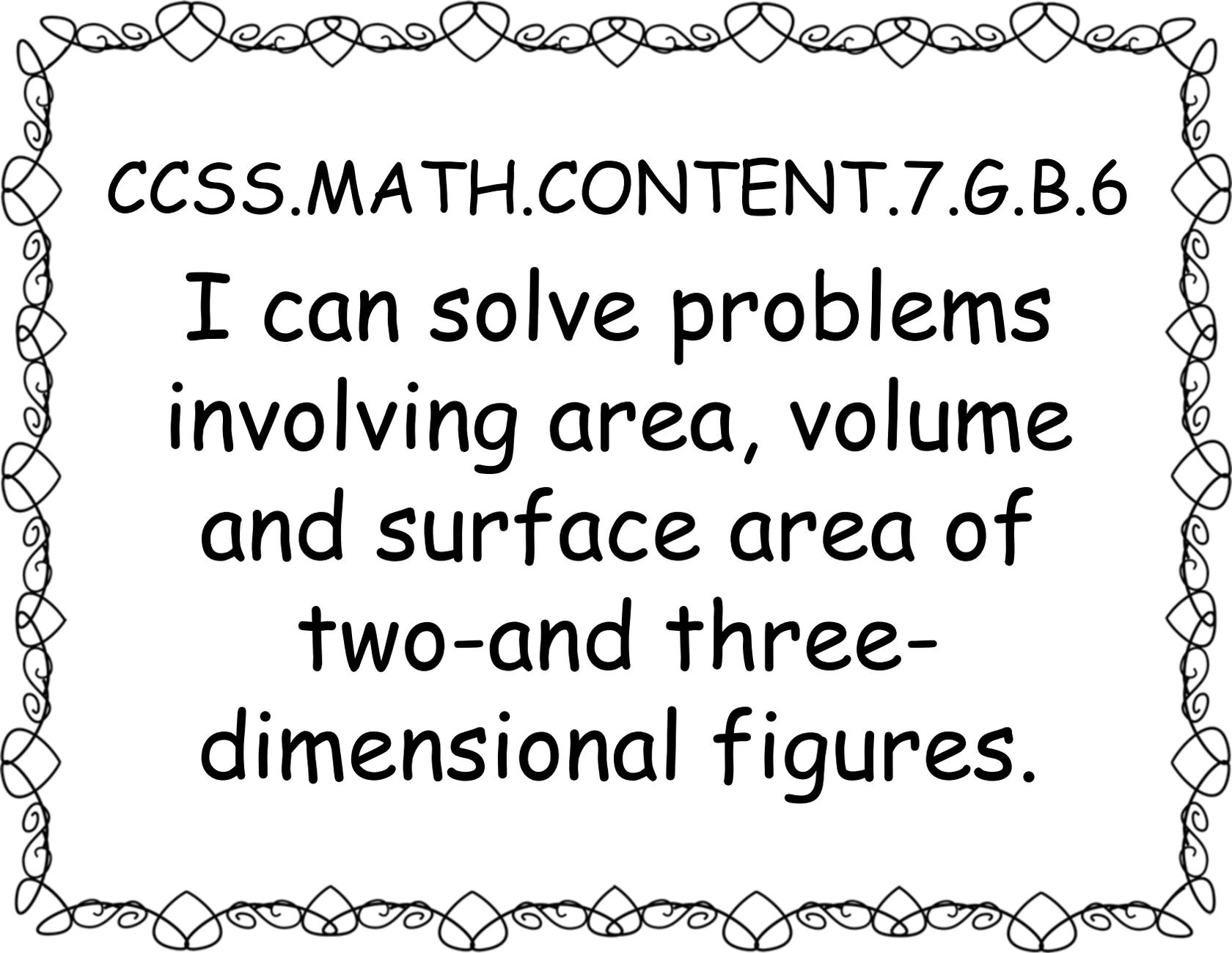
CCSS.MATH.CONTENT.7.G.B.4

I can explain the relationship between the circumference and the area of a circle.
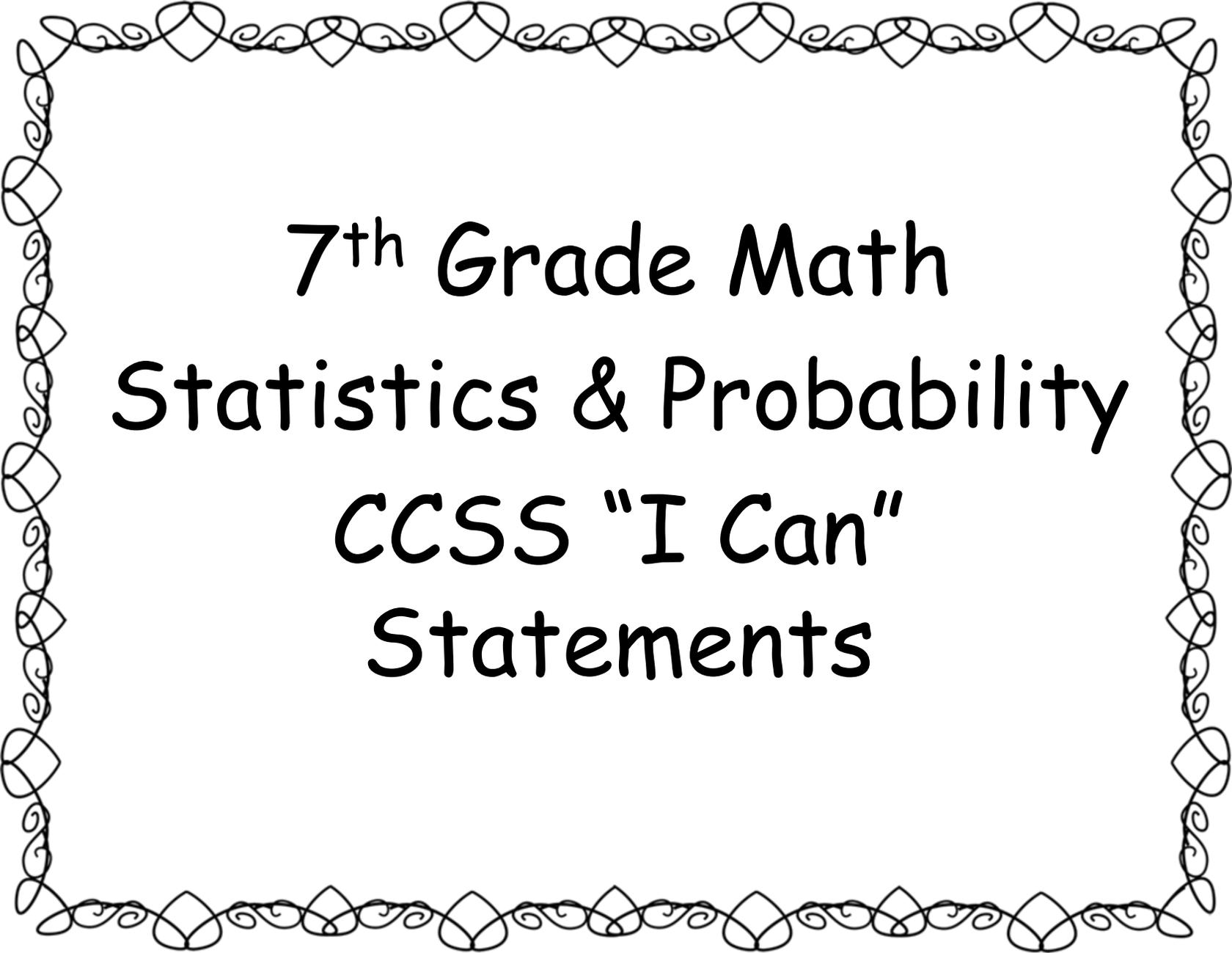
CCSS.MATH.CONTENT.7.G.B.5

I can use properties of supplementary, complementary, vertical and adjacent angles in multi-step problems to write and solve simple equations for an unknown angle in a figure.
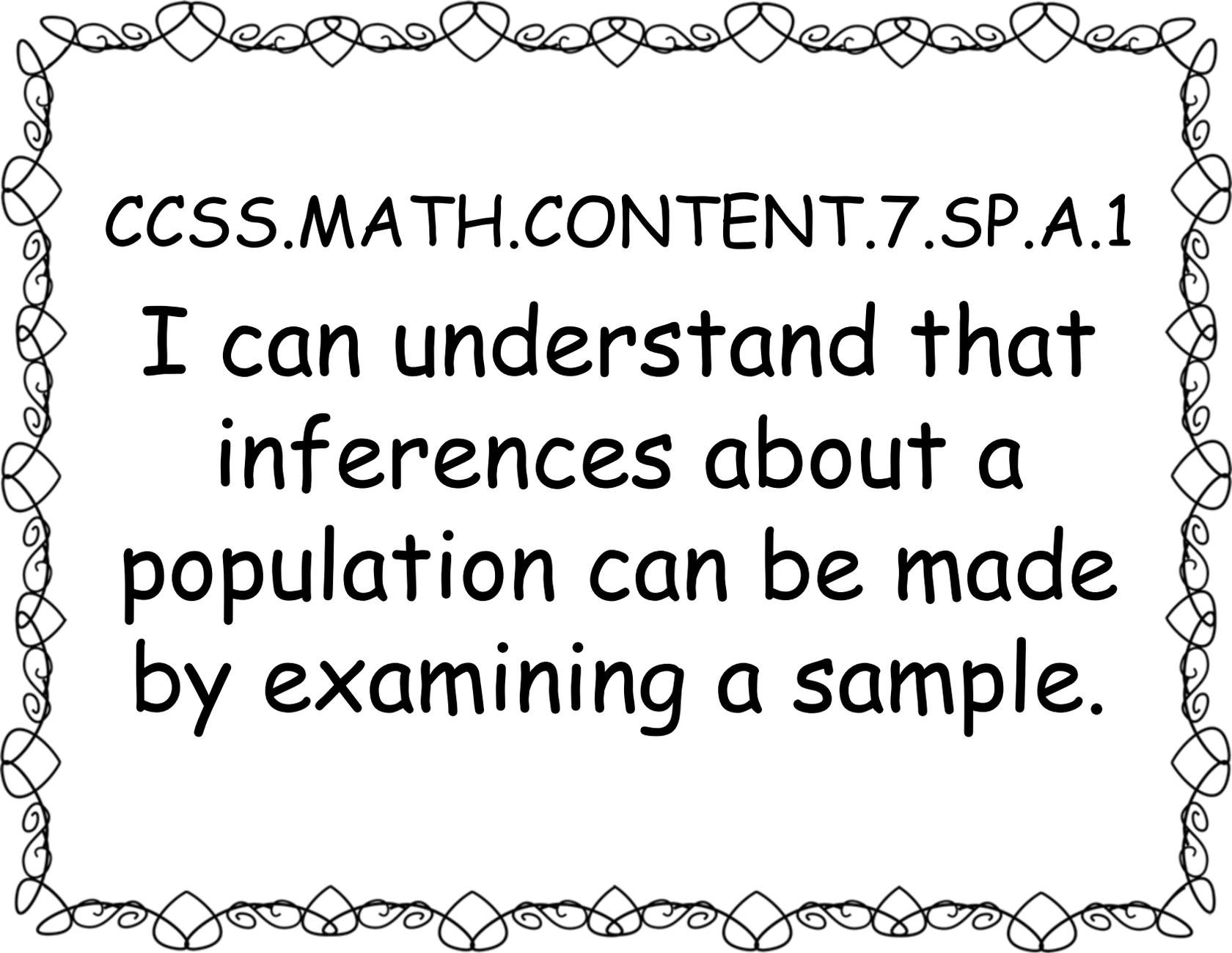
CCSS.MATH.CONTENT.7.G.B.6

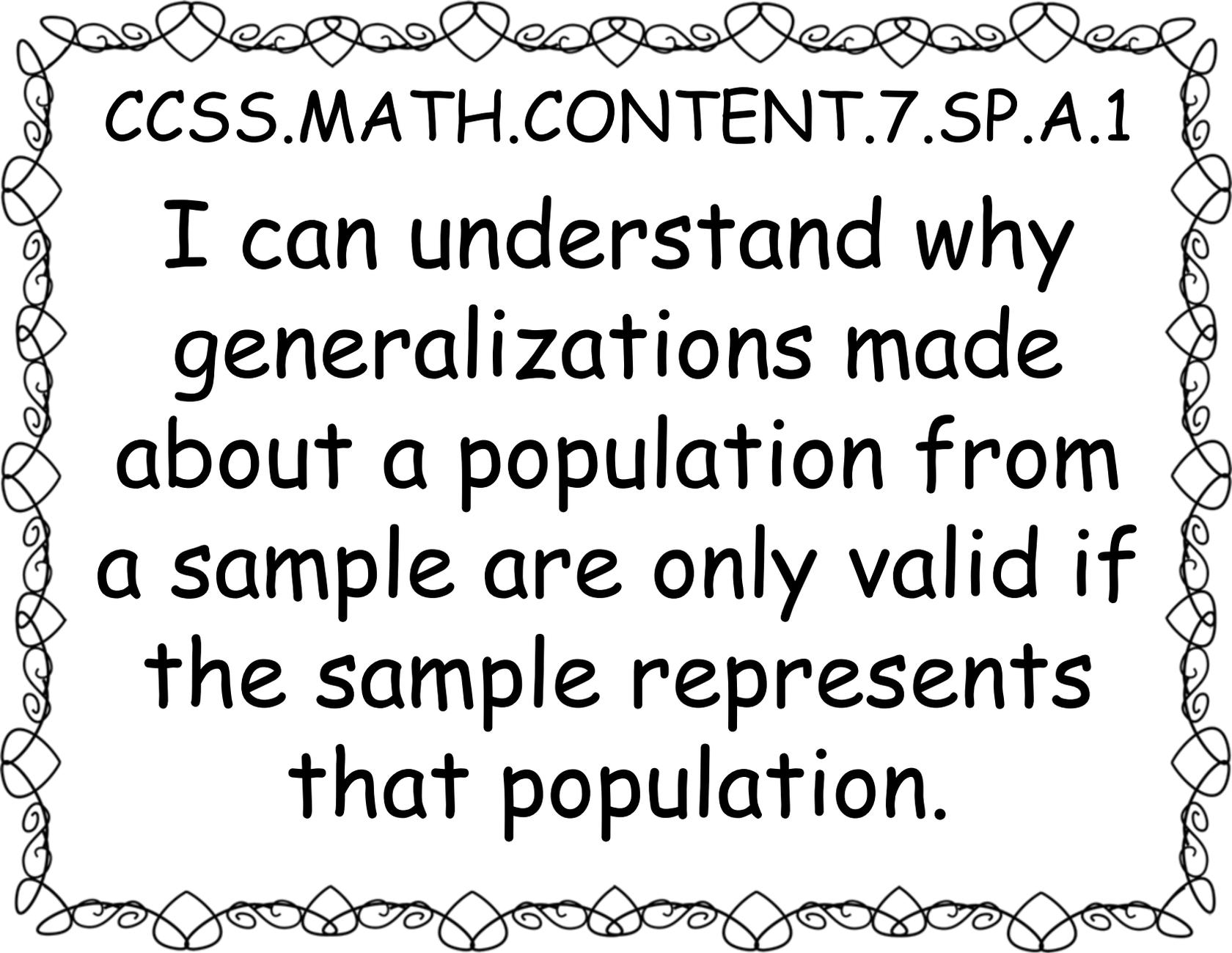I can solve problems involving area, volume and surface area of two-and three-dimensional figures.

7th Grade Math
Statistics & Probability
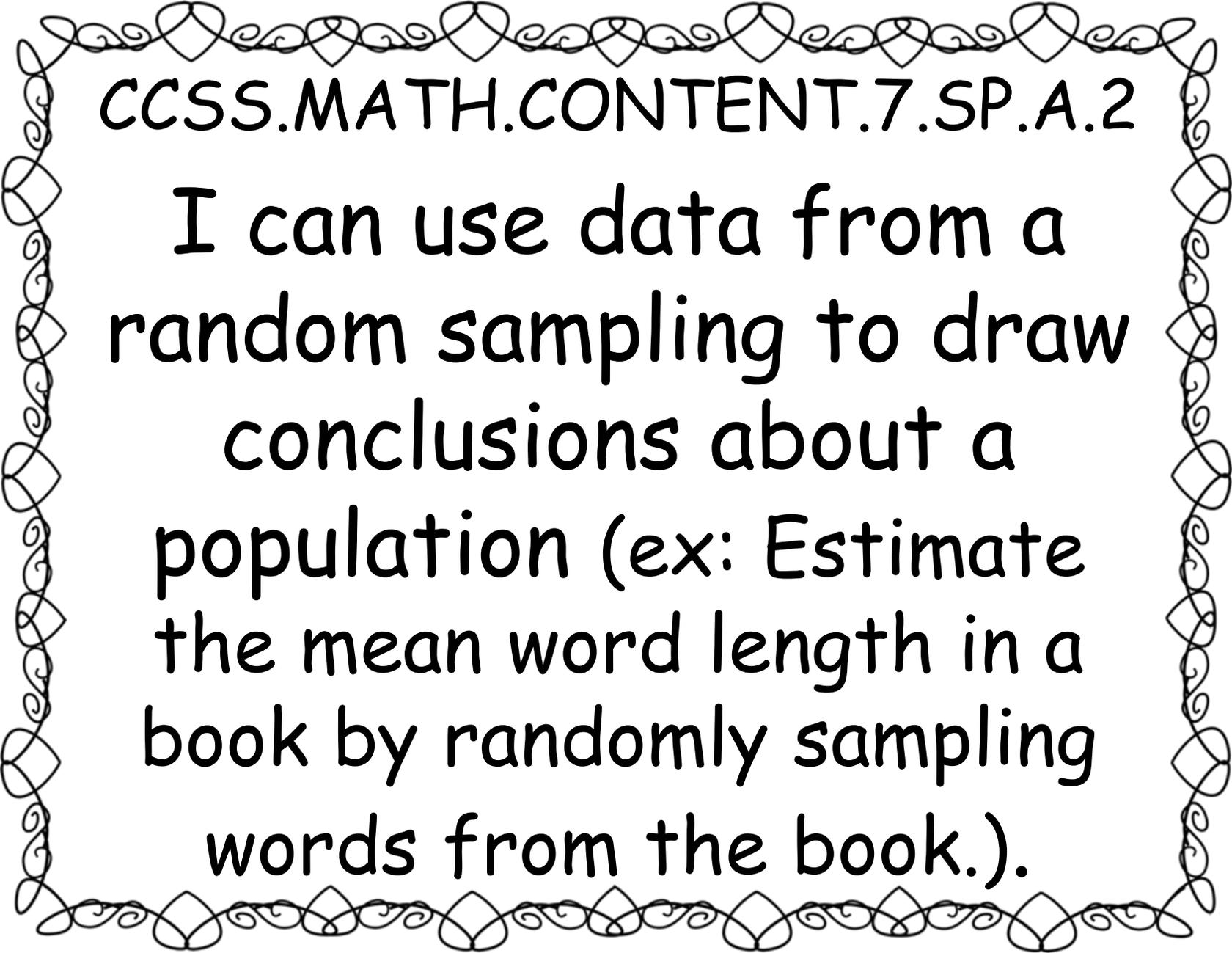
CCSS "I Can" Statements

CCSS.MATH.CONTENT.7.SP.A.1

I can understand that inferences about a population can be made by examining a sample.
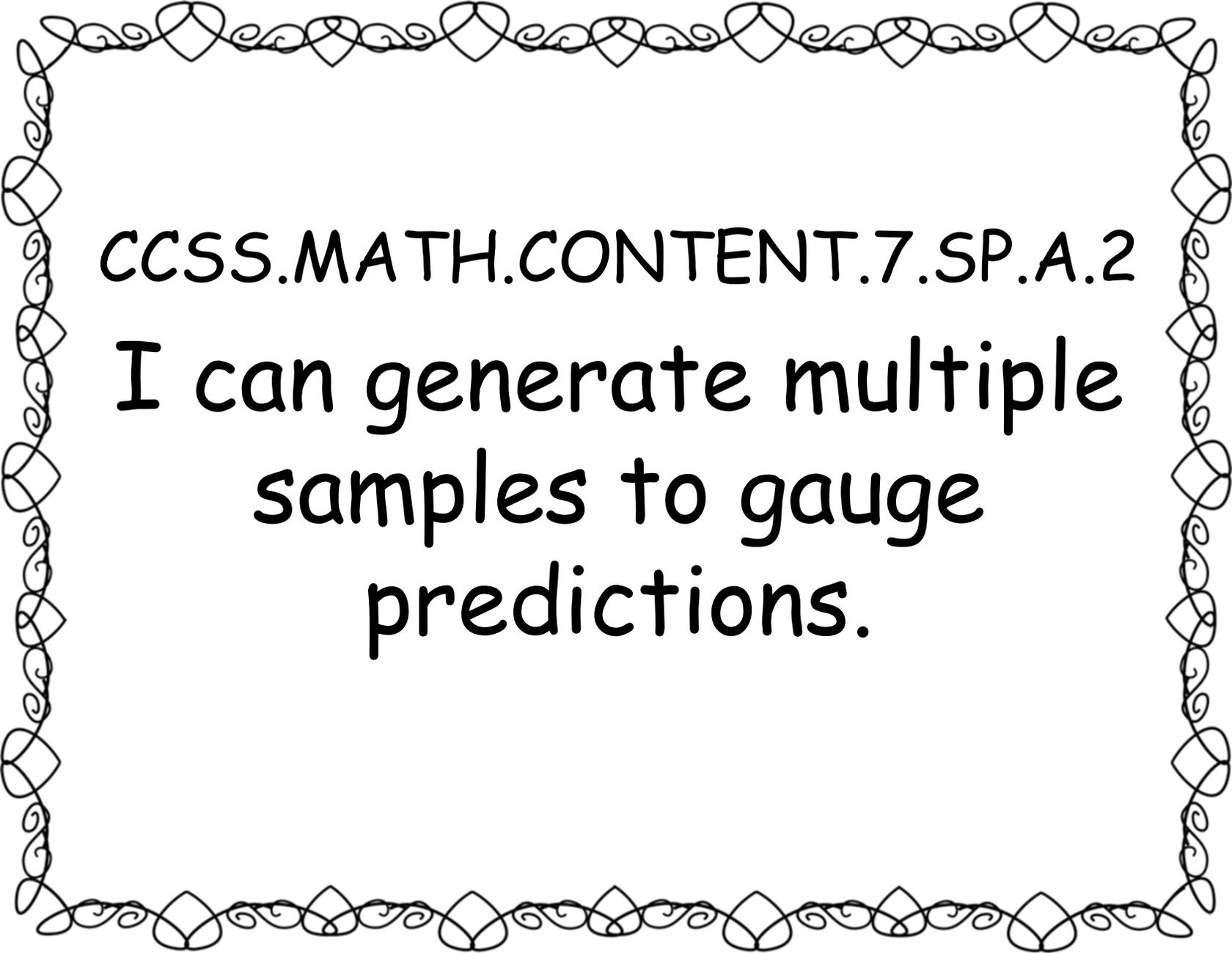
CCSS.MATH.CONTENT.7.SP.A.1

I can understand why generalizations made about a population from a sample are only valid if the sample represents that population.
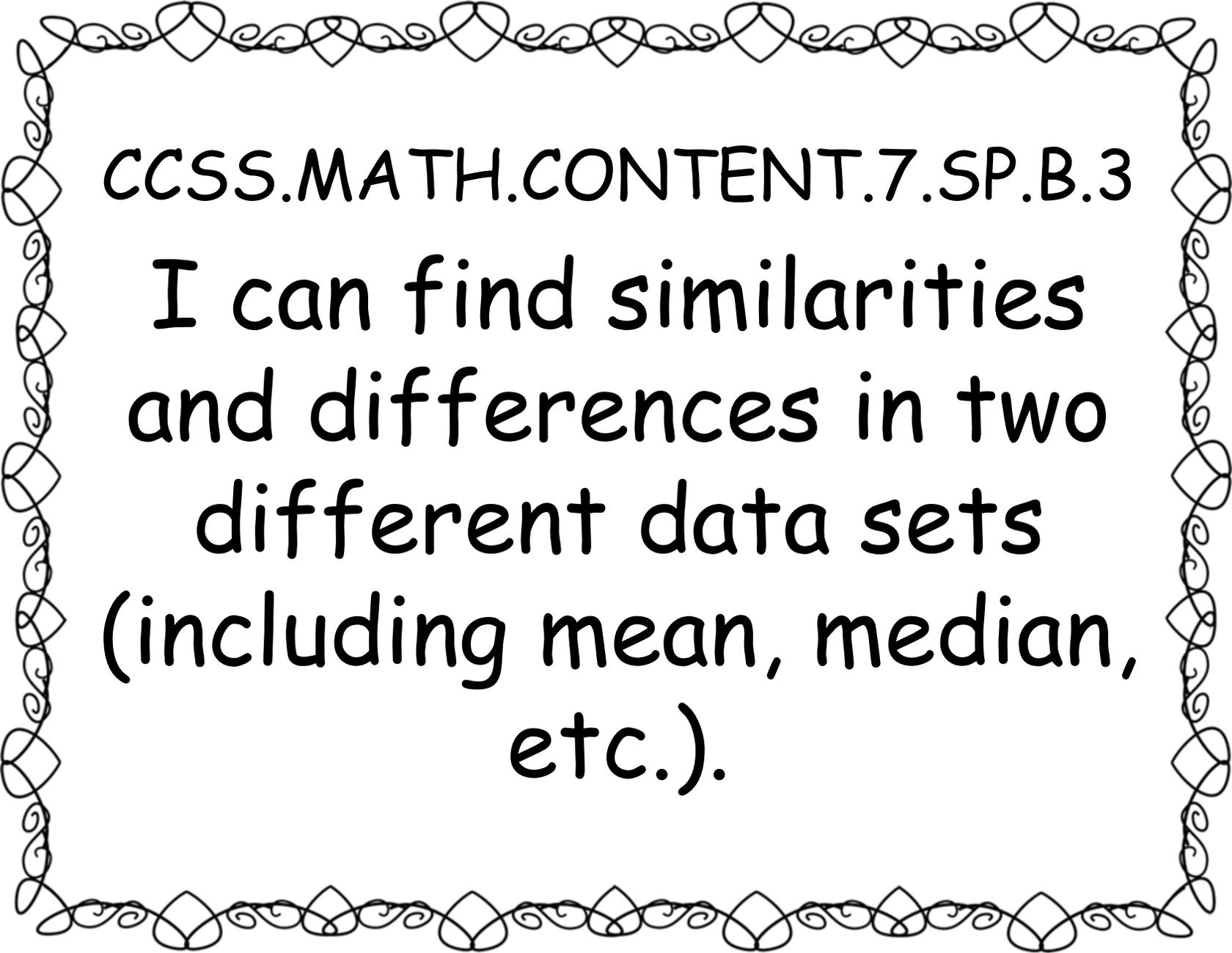
CCSS.MATH.CONTENT.7.SP.A.2

I can use data from a random sampling to draw conclusions about a population (ex: Estimate the mean word length in a book by randomly sampling words from the book.).
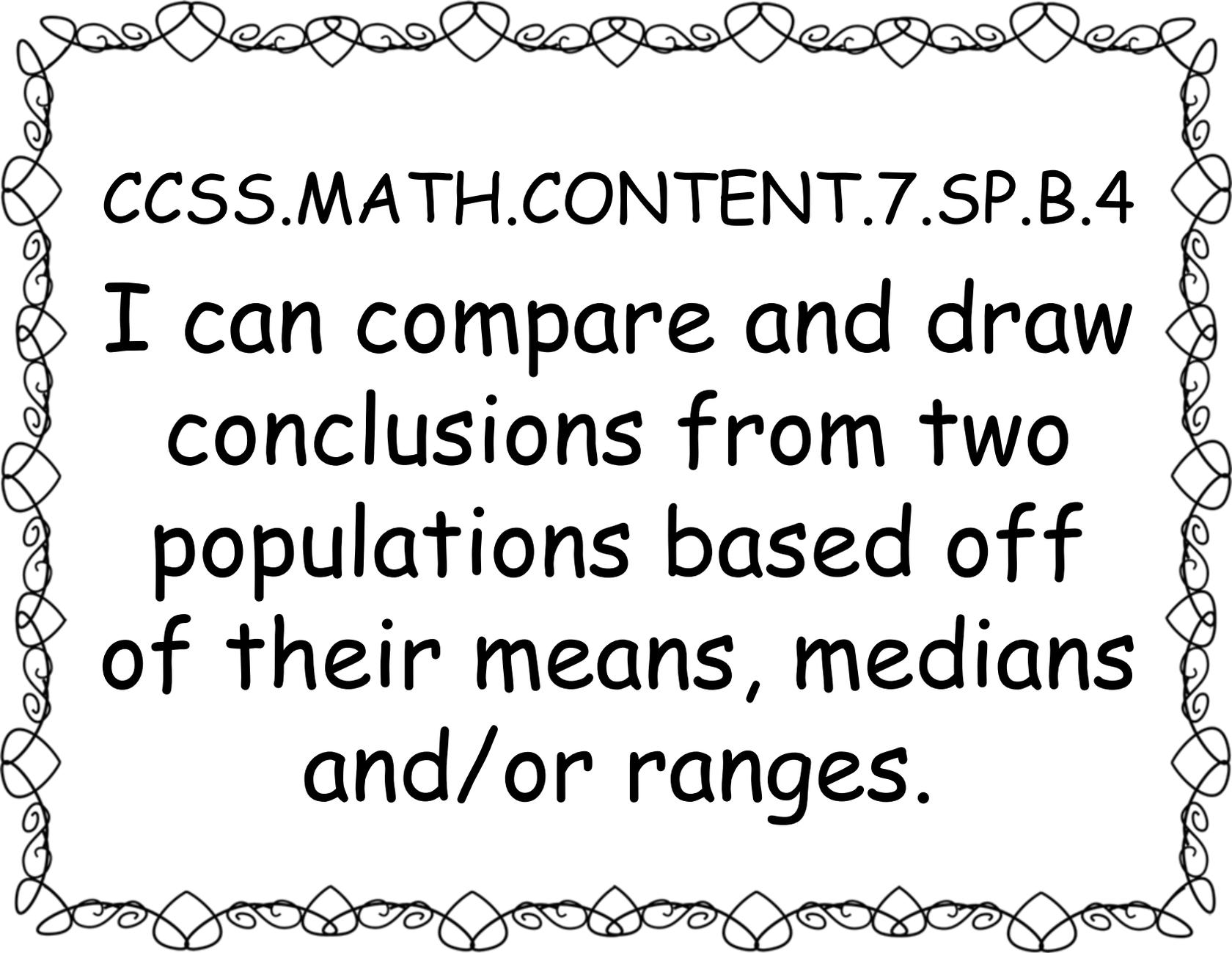
CCSS.MATH.CONTENT.7.SP.A.2

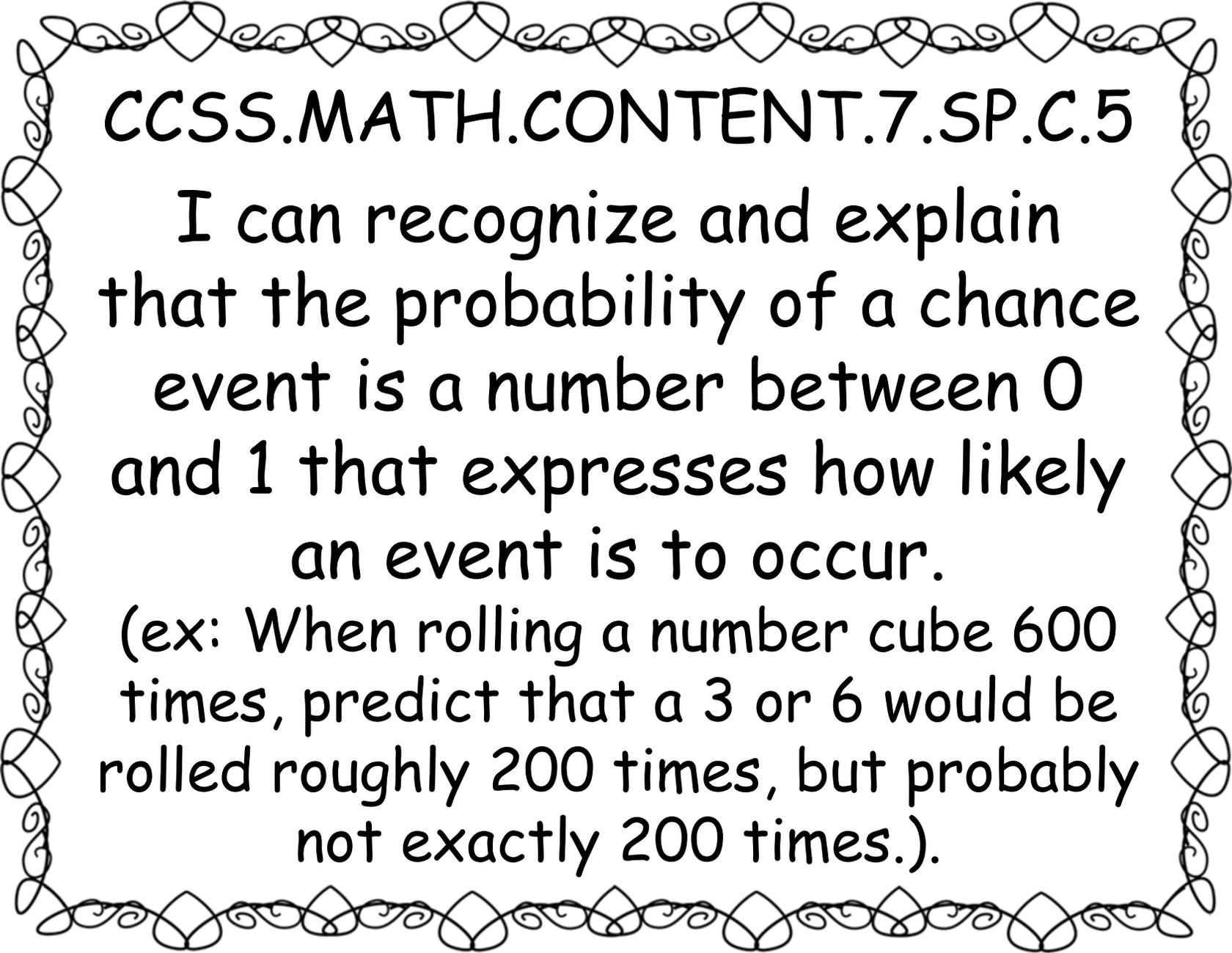I can generate multiple samples to gauge predictions.

CCSS.MATH.CONTENT.7.SP.B.3

I can find similarities and differences in two different data sets (including mean, median, etc.).
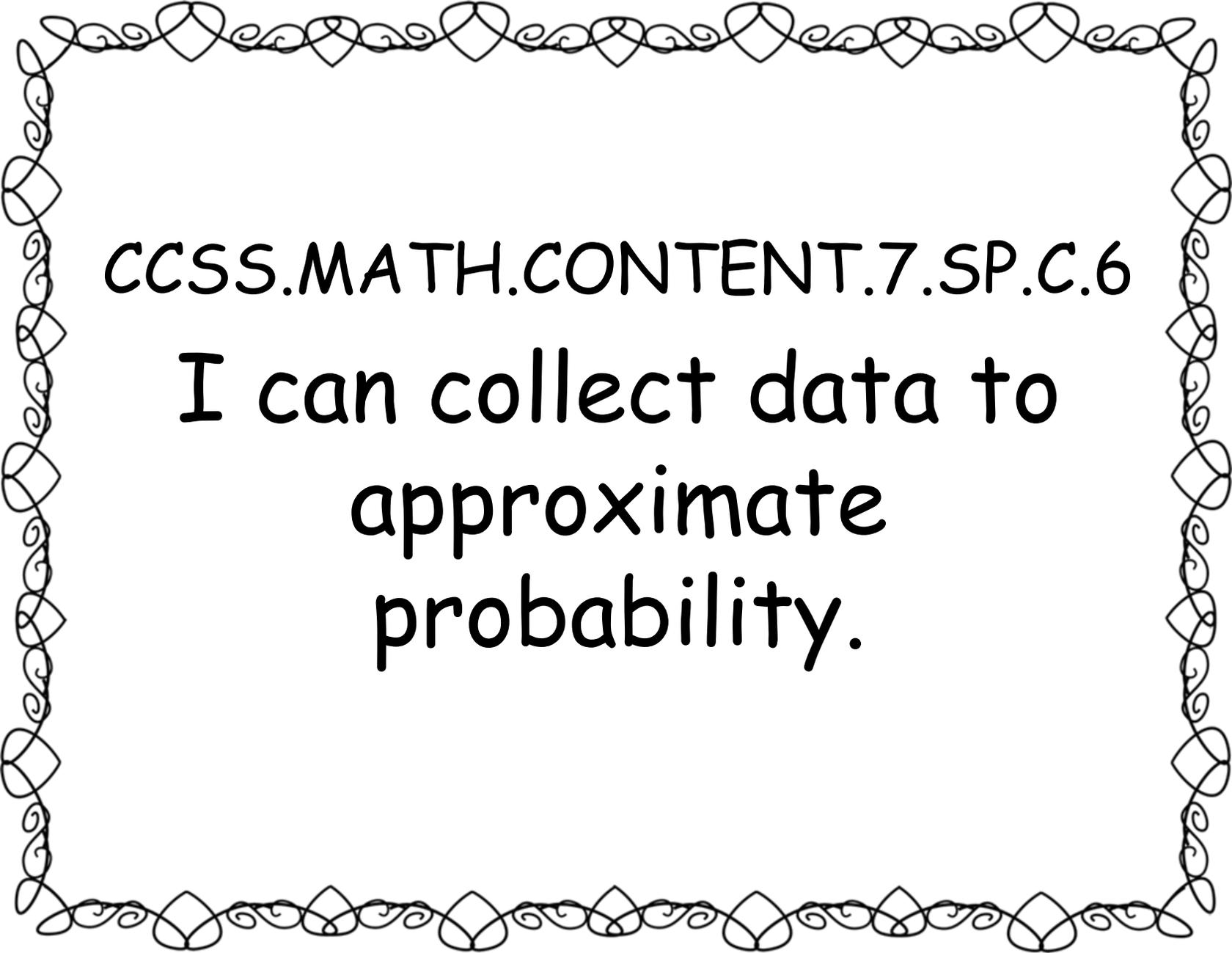
CCSS.MATH.CONTENT.7.SP.B.4

I can compare and draw conclusions from two populations based off of their means, medians and/or ranges.
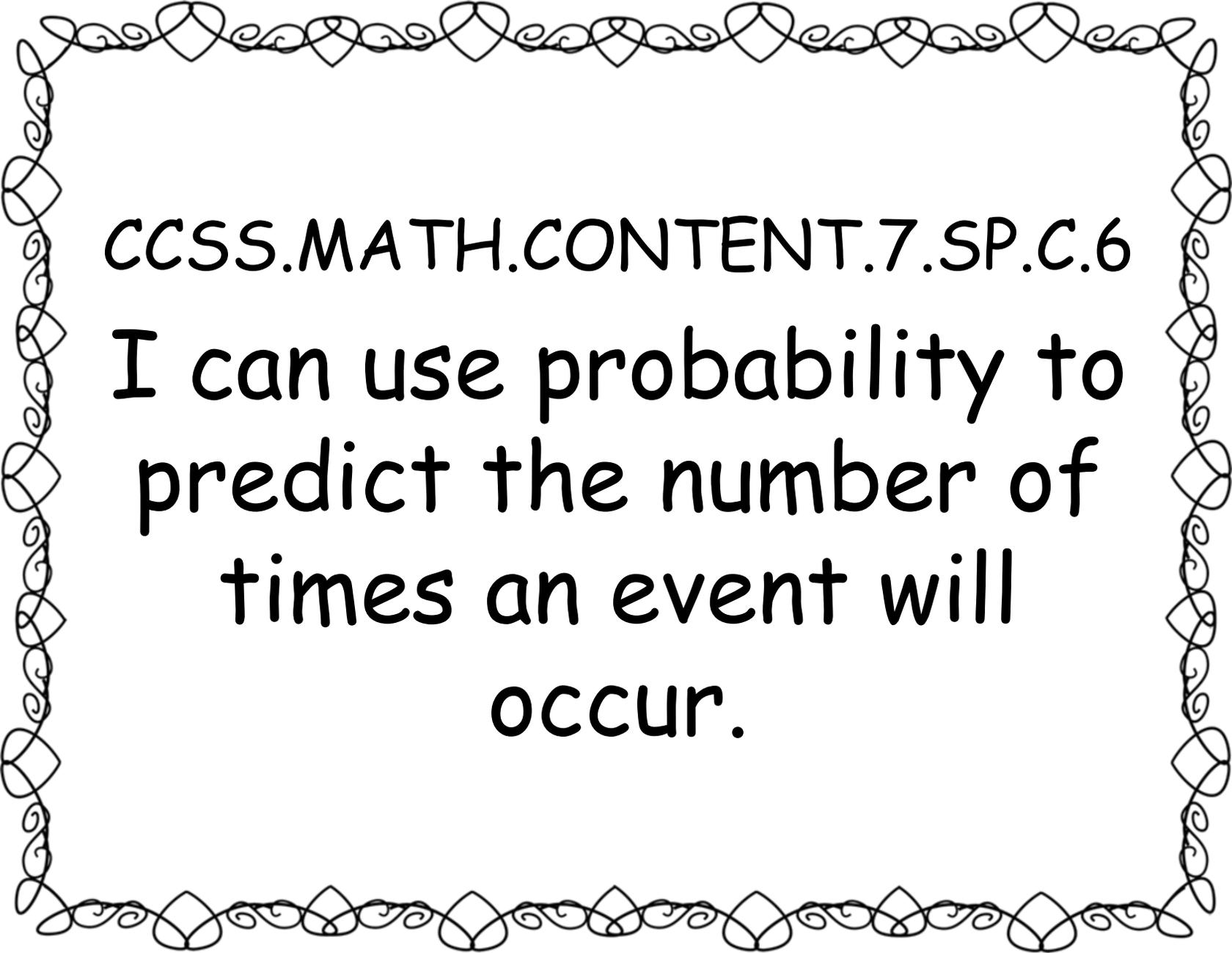
CCSS.MATH.CONTENT.7.SP.C.5

I can recognize and explain that the probability of a chance event is a number between 0 and 1 that expresses how likely an event is to occur.

(ex: When rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.).
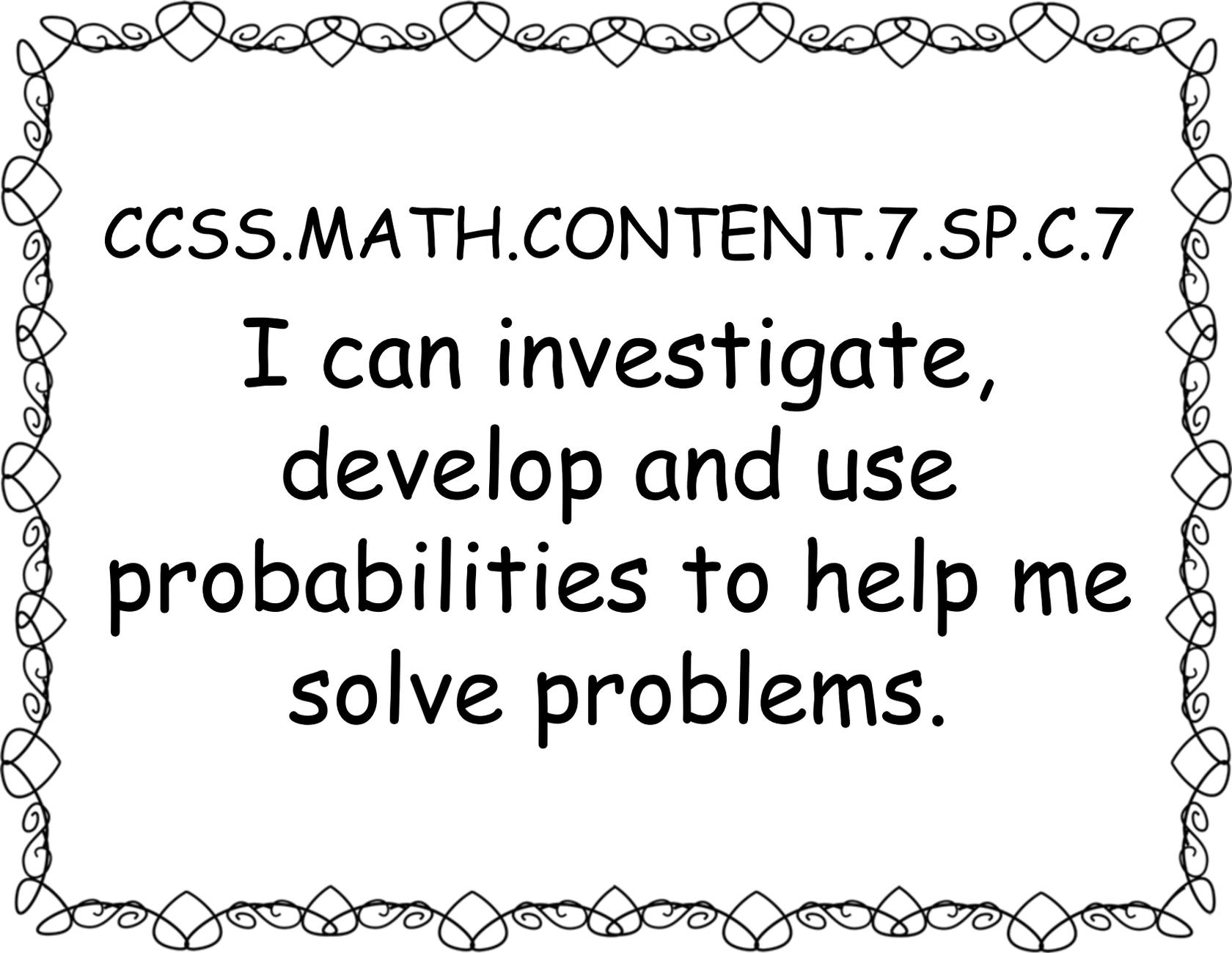
CCSS.MATH.CONTENT.7.SP.C.6

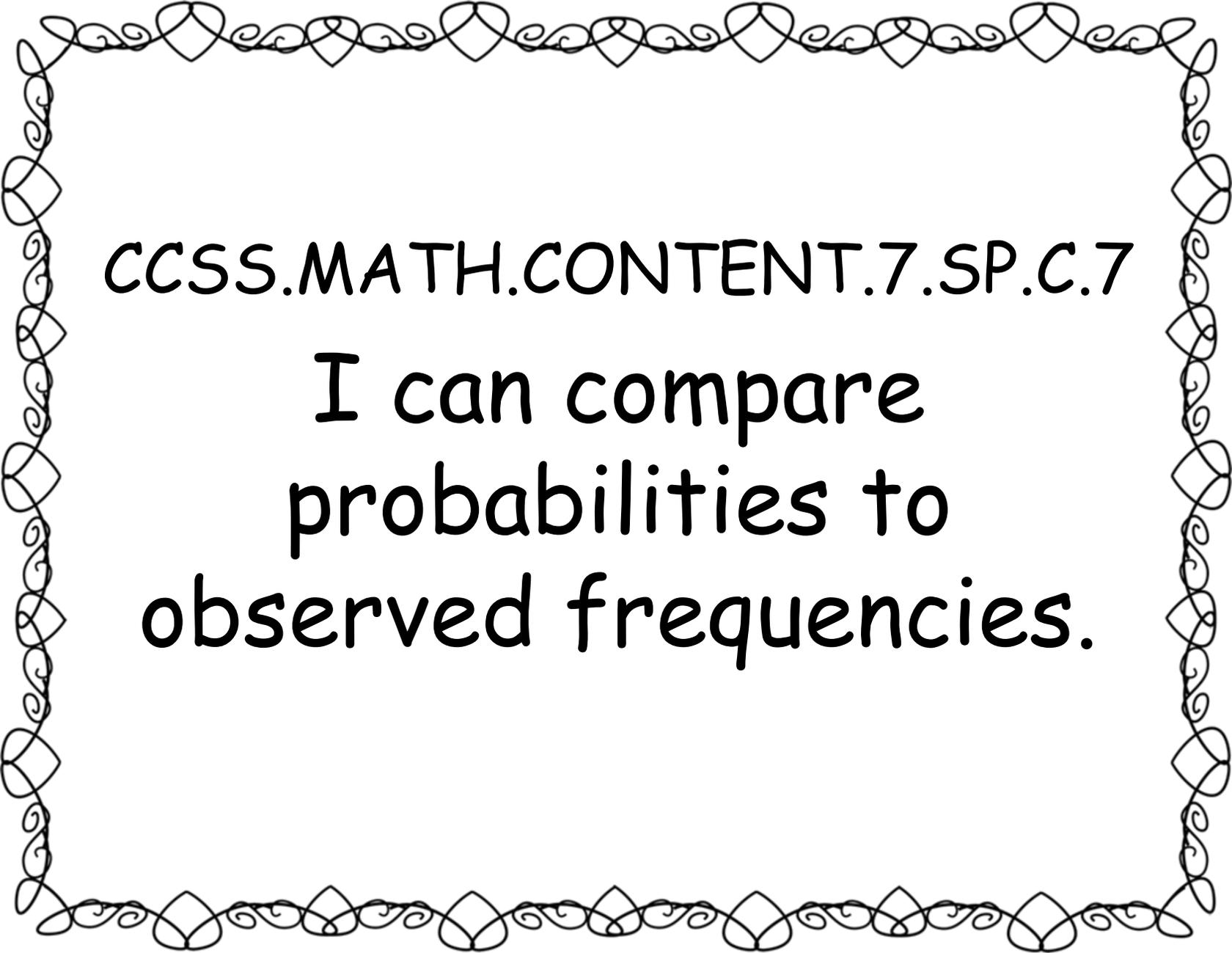I can collect data to approximate probability.

CCSS.MATH.CONTENT.7.SP.C.6

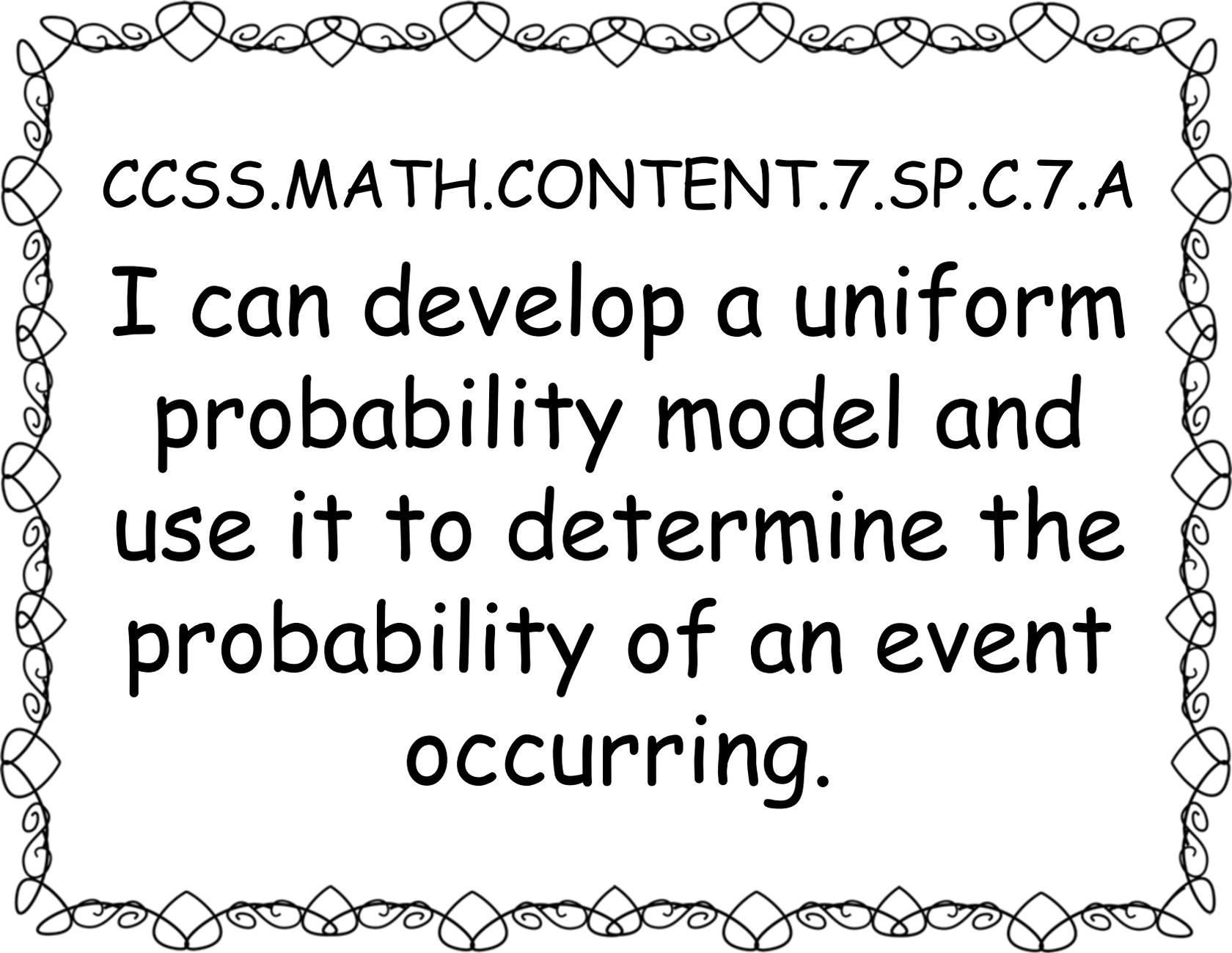I can use probability to predict the number of times an event will occur.

CCSS.MATH.CONTENT.7.SP.C.7

I can investigate, develop and use probabilities to help me solve problems.
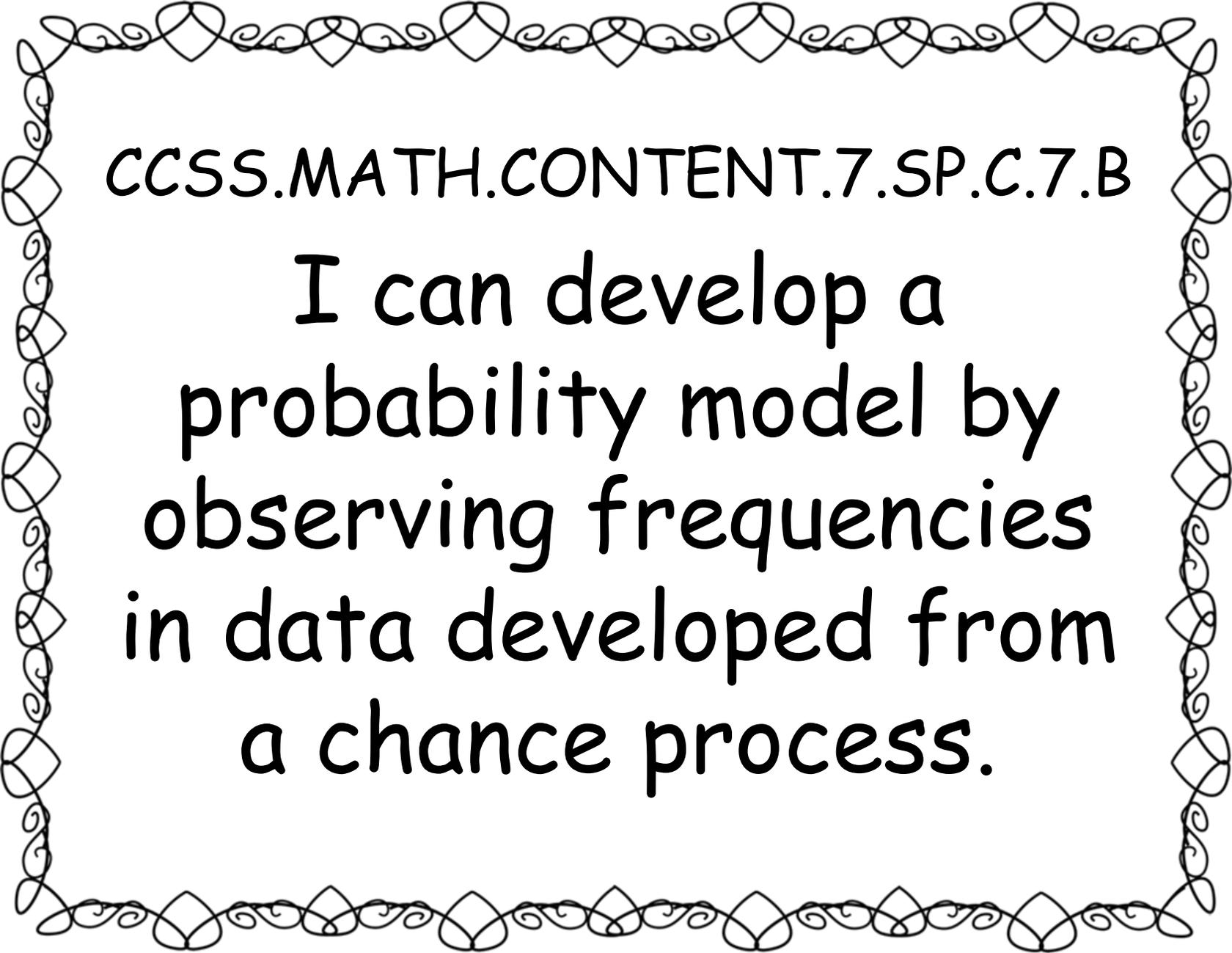
CCSS.MATH.CONTENT.7.SP.C.7

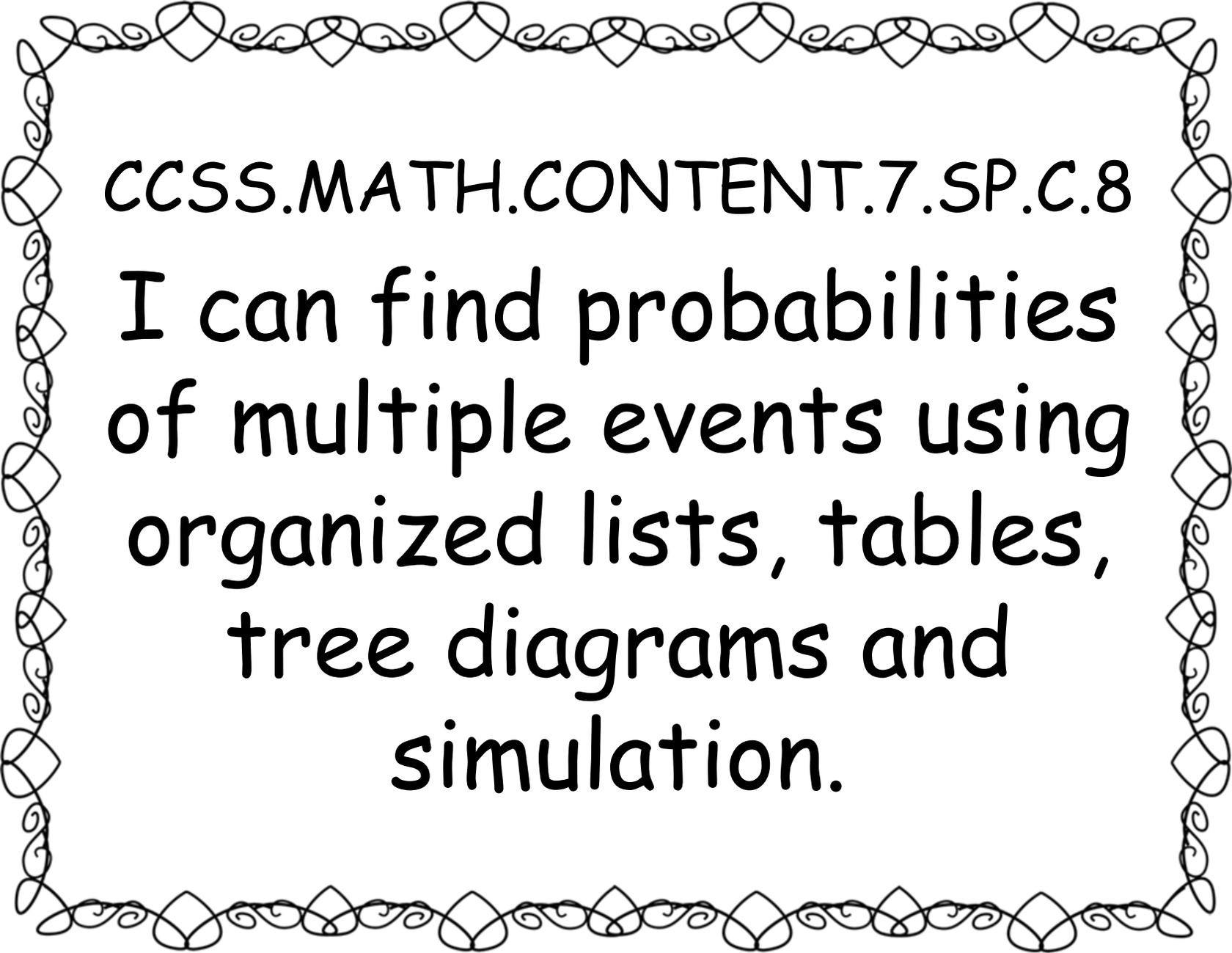I can compare probabilities to observed frequencies.

CCSS.MATH.CONTENT.7.SP.C.7.A

I can develop a uniform probability model and use it to determine the probability of an event occurring.
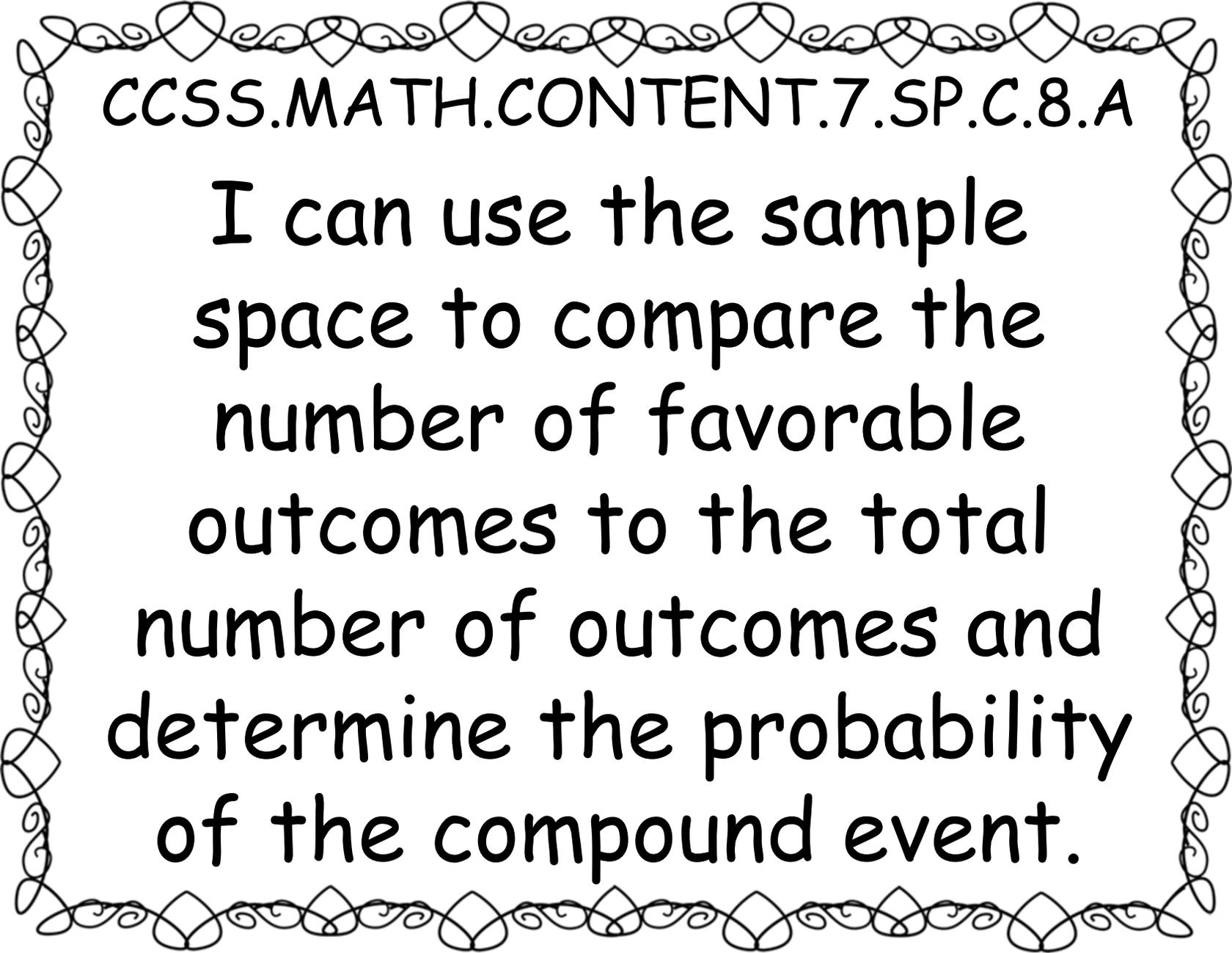
CCSS.MATH.CONTENT.7.SP.C.7.B

I can develop a probability model by observing frequencies in data developed from a chance process.
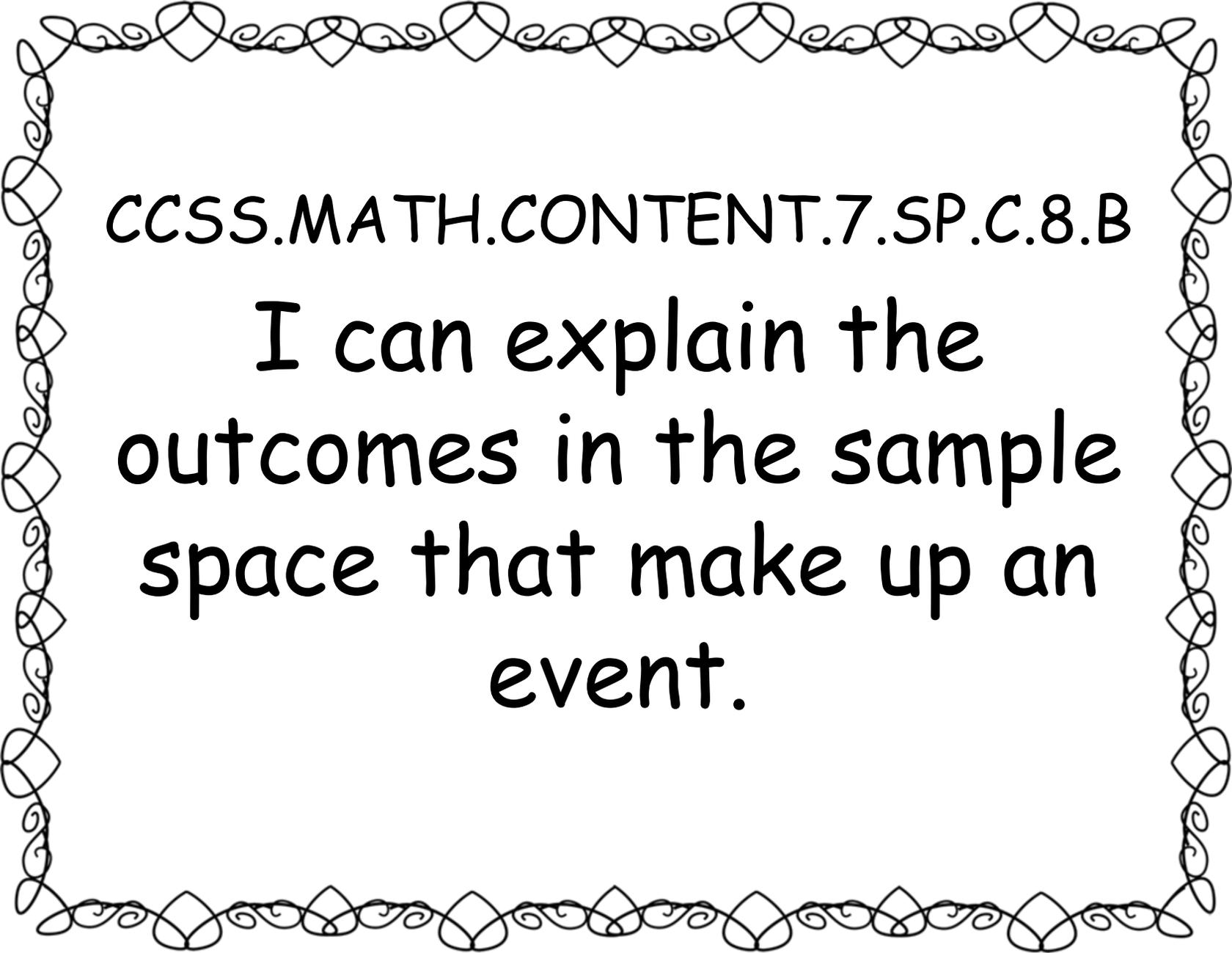
CCSS.MATH.CONTENT.7.SP.C.8

I can find probabilities of multiple events using organized lists, tables, tree diagrams and simulation.
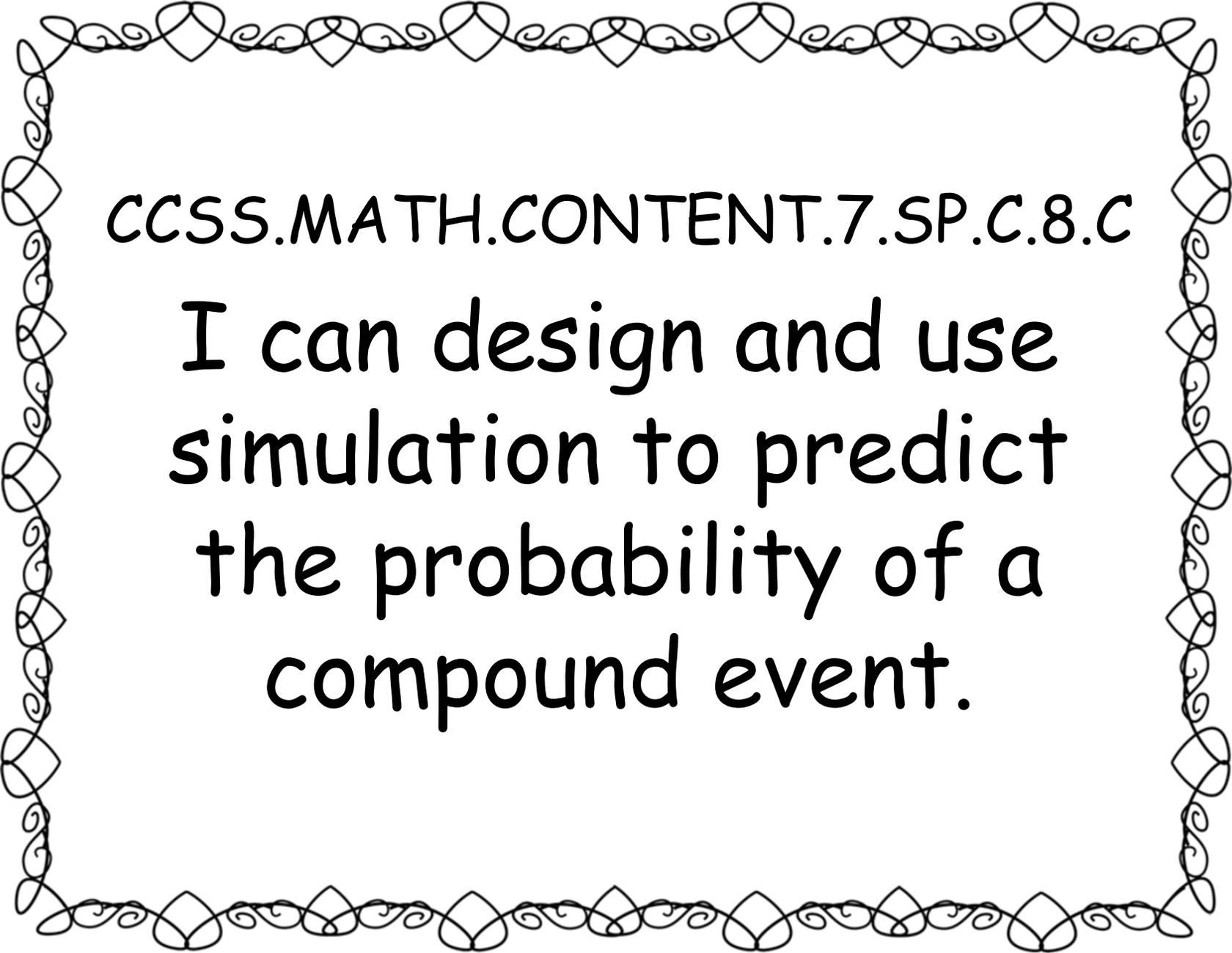
CCSS.MATH.CONTENT.7.SP.C.8.A

I can use the sample space to compare the number of favorable outcomes to the total number of outcomes and determine the probability of the compound event.

CCSS.MATH.CONTENT.7.SP.C.8.B

I can explain the outcomes in the sample space that make up an event.

CCSS.MATH.CONTENT.7.SP.C.8.C

I can design and use simulation to predict the probability of a compound event.