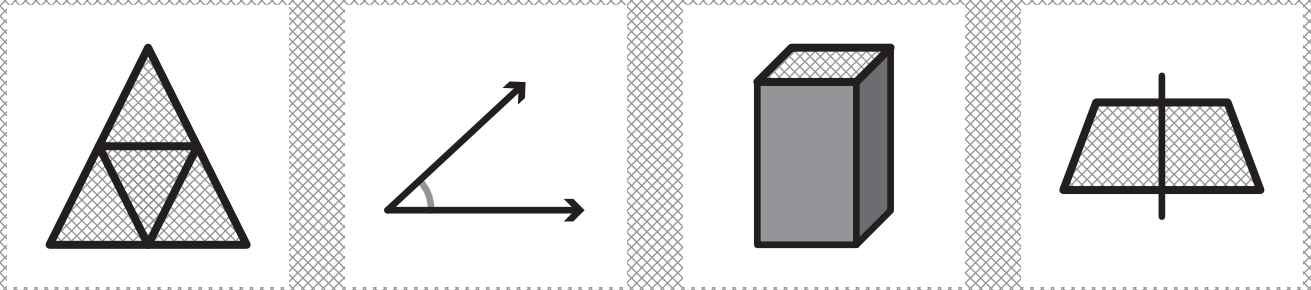
COMMON CORE COLLABORATIVE CARDS

Grades 3–5

Additional resources available at

didax.com/cccc

TEACHER GUIDE



GEOMETRY

by Kit Norris

OVERVIEW

Common Core Collaborative Cards support the teaching and learning of mathematics in several ways. They can be used:

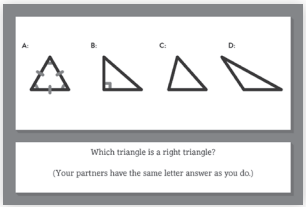
- As an activator for the day's lesson
- To review previous content
- As a learning center activity
- For students' independent practice

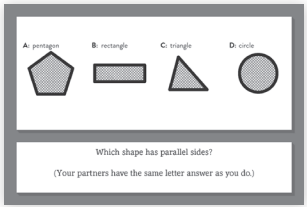
Common Core Collaborative Cards provide convenient and motivating ways to place students in collaborative teams for an upcoming unit or problem-solving lesson.

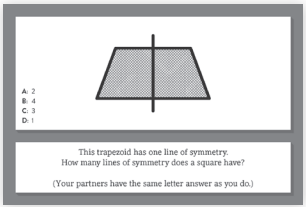
The Common Core Collaborative Cards series consists of three decks of cards per box, each focusing on the same domain in the Common Core State Standards (CCSS). Each deck provides problems representing the standards articulated in the CCSS for a particular grade level.

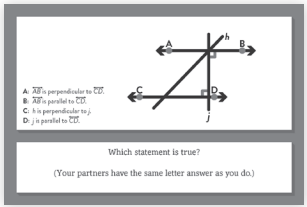
Teachers using these decks have commented that they have been able to observe what their students understand as well as identify their misconceptions. Teachers have also noted that their students began to rely on each other more instead of seeking out the teacher to answer their questions.

The cards are designed to place students in groups of four. Students are each given a card and asked to solve the problem on it. They then look for three other students who have the same solution. Once they have located their group, the students must be ready to explain why each group member's card belongs in the group. Here is one group of cards from the Grade 4 Geometry deck:









All four cards in this set have the same answer, 10, so students who receive one of these cards form a group.

GROUP MEMBER ROLES

The cards offer a second feature: the reverse side of each card indicates the role the student holding the card is to perform in the group. After the students are presented with the task for that day's lesson, each member of the group takes on the role designated. These roles are as follows:

- Discussion Director
- Resource Manager
- Recorder
- Team Captain

Teachers can easily identify the roles that students are expected to perform since students place their cards on their desk with the side indicating the role facing up. The roles are explained as follows:

If you are the **Discussion Director**, your job is to . . .

- Make sure that everyone has read the problem and understands what the question is asking. You can ask, "What do we know?" "What do we want to find out?" and "Can we make a prediction?"
- Invite everyone in the group to participate. You can use statements such as, "What is your idea?" and "What are you thinking?"

If you are the **Resource Manager**, your job is to . . .

- Ask the teacher a question if all of the members of the group have the same question.
- Get any supplies needed by the group.
- Keep track of time.

The Resource Manager's role goes beyond taking care of the supplies. The Resource Manager is the only member of the group who may ask the teacher a question. Before asking a question, every member of the group must have the same question, and the teacher can then direct the answer to the whole group. This helps the members of the group become more interdependent, since group members can answer many of their questions themselves rather than relying on the teacher.

If you are the **Recorder**, your job is to . . .

- Keep track of the thinking of the group. Be ready to answer how the group approached the problem. What strategy did the group use to solve the problem?
- Record the work of the group. Be organized and clear.
- Ask, "Is there anything else we need to include?"

If you are the **Team Captain**, your job is to . . .

- Make sure that everyone in your group can explain to the class the solution and the strategies used to solve the problem.
- Ask each member of your group, "How would you explain what we did to get this answer?" "What questions do you have?"
- Check the group's solution by asking, "Does our answer make sense?"
- Take on any role if one member of your group is absent.

MANAGING THE CARDS IN YOUR CLASSROOM

Like any other classroom materials, you'll need to manage your Common Core Collaborative Cards. It is essential to group the cards by shared answer after each use. Since the cards are designed to place students in groups of four and since class size will vary, this end-of-activity organizational task will make it easier to distribute the cards the next time you use them. Here are some suggestions for organizing the cards after each use:

- As you collect the cards from each student group, place a rubber band around each group of four cards with the same answer before storing.
- After the activity, collect the cards from the class in any order and designate a student to organize the cards into groups of four according to the answer.

WHAT THE RESEARCH SAYS

Research on the effectiveness of collaborative learning abounds. For more information on the research that informs this product, as well as a complete list of bibliographic references and suggestions for further reading, please visit didax.com/cccc.

COMMON CORE STATE STANDARDS – MATHEMATICAL PRACTICES

The Common Core State Standards define what mathematically proficient students know and are able to demonstrate. Combining the process standards from NCTM's Principles and Standards for School Mathematics with the definition of mathematical proficiency from Kilpatrick, Swafford, and Findell's *Adding It Up: Helping Children Learn Mathematics*, the Common Core Standards present the Mathematical Practices.

These practices focus on the specific actions taken by students who are mathematically proficient.

The eight mathematical practices are:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

(*Common Core State Standards for Mathematics*, 2010, pp. 6–8)

The authors of the Common Core carefully chose to begin the mathematical practices with problem solving. "Problem solving is not only a goal of learning mathematics but also a major means of doing so" (NCTM, 2000, p. 52). Students who are engaged in solving meaningful tasks are in the process of building their understanding. They are making connections, constructing arguments, analyzing approaches, looking for patterns, and reflecting on their thinking. These students are learning mathematics, and they have opportunities to exhibit the eight mathematical practices.

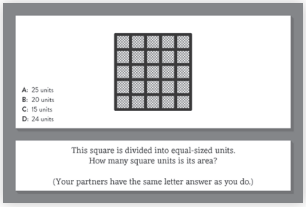
The Collaborative Cards provide students with opportunities to develop proficiency in the eight mathematical practices. Students solve problems, discuss strategies, and reason mathematically (Mathematical Practices 1–3). They work with patterns and apply them in various contexts (Mathematical Practices 7–8). They determine whether to calculate problems mentally or use paper and pencil (Mathematical Practice 5). By attending to the use of appropriate vocabulary and the accuracy of their responses, they are attending to precision (Mathematical Practice 6). They use equations to model problem situations (Mathematical Practice 4).

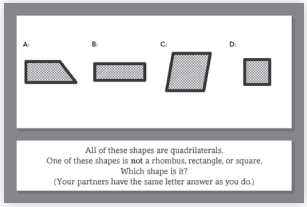
The Collaborative Cards provide teachers with insights into what individual students truly understand. As they apply their knowledge in new contexts, students use what they know. As one fifth-grade teacher in Grafton, Massachusetts stated, "I gained insights into my students' misconceptions. These cards are an easy way to learn about students' strengths."

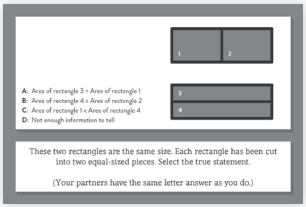
GEOMETRY: GRADE 3

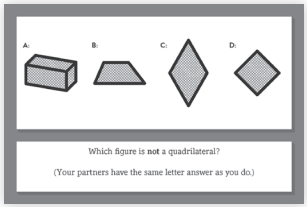
The Grade 3 deck focuses on the standards in the Geometry domain and the Measurement and Data (geometric measurement) domain as presented in the Common Core State Standards on pages 25–26. In Grades 1 and 2, students worked with two- and three-dimensional shapes and partitioned rectangles and circles into two, three, and four equal parts. In Grade 3, students focus on the attributes of two-dimensional geometric shapes. The Grade 3 deck also asks students to work with square units and area, reflecting the geometric measurement standards for this grade level.

Here is one group of four cards in the Grade 3 deck that all have the same answer, A.









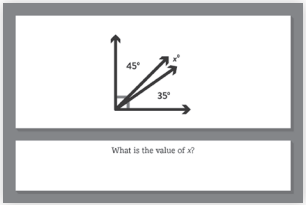
In this set of four cards, students work with area and the attributes of quadrilaterals. On the third card students are presented with identical rectangles that have been bisected in two different ways. This question presents a common misconception that students may embrace. Some students think that if two shapes looks different, they must have different areas.

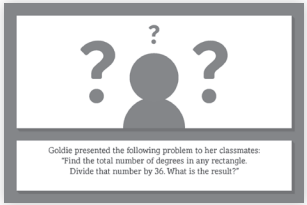
Answers for the Grade 3 Geometry deck are provided on pages 10–12 of this guide.

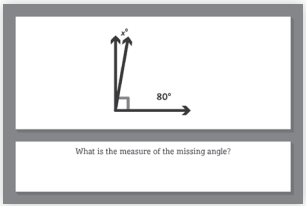
GEOMETRY: GRADE 4

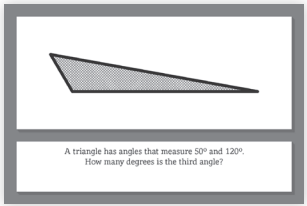
The Grade 4 deck focuses on the standards in the Geometry domain and the Measurement and Data (geometric measurement) domain as presented in the Common Core State Standards on pages 31–32. After investigating categories of shapes, students now consider specific attributes of shapes in those categories. Students classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines. They also classify shapes according to the presence or absence of angles of a specified size. Geometry standards also asks students to work with lines of symmetry, while geometric measurement standards focus on concepts of angle measurement.

Here is one group of four cards in the Grade 4 deck that all have the same answer, 10.









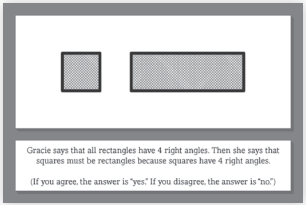
In this set of four cards, students use known facts such as a right angle measures 90 degrees, the sum of the angles of a rectangle is 360 degrees, and the sum of the angles of a triangle is 180 degrees. Students apply these facts in four different contexts.

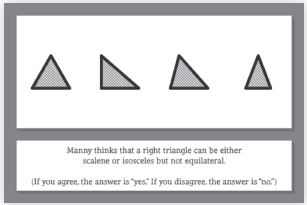
Answers for the Grade 4 Geometry deck are provided on pages 13–15 of this guide.

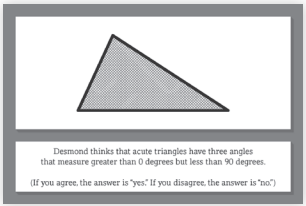
GEOMETRY: GRADE 5

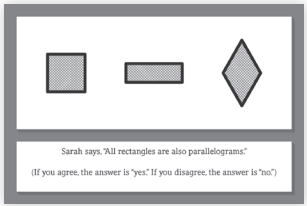
The Grade 5 deck focuses on the standards in the Geometry domain and the Measurement and Data (geometric measurement) domain as presented in the Common Core State Standards on pages 37–38. In Grade 5 students are asked to extend their thinking from their work with perpendicular and parallel lines in Grade 4. They graph points on the coordinate plane to solve mathematical and real-world problems and classify two-dimensional figures according to a hierarchy of properties. In the geometric measurement domain, students calculate the volume of three-dimensional shapes and relate volume measurement to multiplication and addition.

Here is one group of four cards in the Grade 5 deck that all have the same answer, "yes."









Each of the four cards in this group provides students with the opportunity to evaluate the reasoning stated on the card. Consequently, students engage in Mathematical Practice Standard #3, "Construct viable arguments and critique the reasoning of others." Close reading is required of students to make sense of the statements presented on the cards. Teachers might consider having students read their cards aloud with a partner before determining whether or not they agree with the statement presented.

Answers for the Grade 5 Geometry deck are provided on pages 16–18 of this guide.

VISIT DIDAX.COM/CCCC ...

For the following important resources:

- A complete bibliography and links to research that informed this product
- A complete correlation to the Common Core State Standards for each grade-level deck
- Meaningful tasks to be used at each grade level (once students have used the Common Core Collaborative Cards to form their groups)

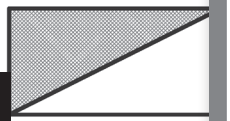
ADDITIONAL MEANINGFUL TASKS

One of the best sources of meaningful tasks related to the Common Core is the book *NCSM: Great Tasks for Mathematics (K–5)* by Connie Schrock, Kit Norris, David K. Pugalee, Richard Seitz, and Fred Hollingshead. (National Council of Supervisors of Mathematics, 2013, ISBN: 978-0-9890765-0-0.)

GRADE 3 GROUPINGS

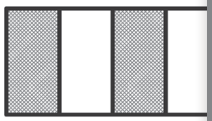
Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

ANSWER
½



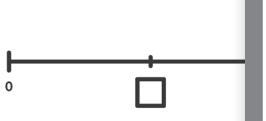
This rectangle equals one whole. How much of the rec

(Give your answer as a fraction.)



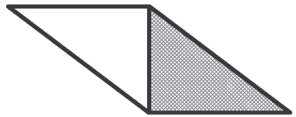
The large rectangle equals one whole
How much of the large rectangle is shad

(Give your answer as a fraction.)



The number line is divided into two equal se
What value goes in the box?

(Give your answer as a fraction.)



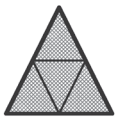
This parallelogram equals one whole. How much of it is shaded?

(Give your answer as a fraction.)

ANSWER
¼

The large rectangle equals one whole
How much of it is shaded?

(Give your answer as a fraction.)



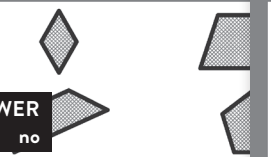
The large triangle equals one whole.
The smaller triangles inside it are equal i
How much of the whole is one of the small t
(Give your answer as a fraction.)

Dennis drew a number line to show how much of the
What fraction goes in the box?

What part of the circle is shaded?

(Give your answer as a fraction.)

ANSWER
no

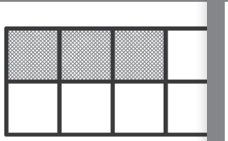


Darrell thinks that all of these shapes are quadrilatera

(If you agree, the answer is "yes." If you disagree, the

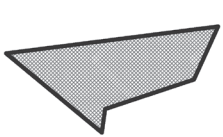
Penelope says that none of these shapes is a qu
Do you agree?

(If you agree, the answer is "yes." If you disagree, the



Pierre looked at this shape and said, "The shaded pa
Do you agree?

(If you agree, the answer is "yes." If you disagree, the



Connie drew this figure. She says it's a quadrilateral. Do you agree?

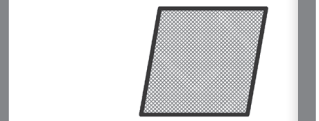
(If you agree, the answer is "yes." If you disagree, the answer is "no.")

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

GRADE 3 GROUPINGS

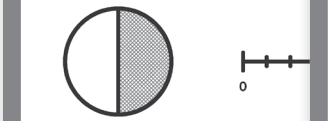
Henry says that both of these pictures show ⅓. D

(If you agree, the answer is "yes." If you disagree, the



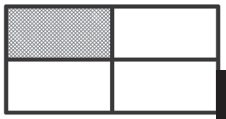
Maleika drew this shape.
She said, "This shape is not a rectangle or a square."

(If you agree, the answer is "yes." If you disagree, the



Gracie says that these two pictures show the sa
Do you agree?

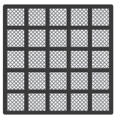
(If you agree, the answer is "yes." If you disagree, the



Malik said, "I see that four one-fourths make one whole." Do you agree?

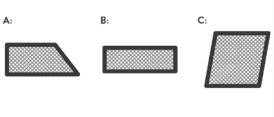
(If you agree, the answer is "yes." If you disagree, the answer is "no.")

ANSWER
yes



This square is divided into equal-sized u
How many square units is its area?

(Your partners have the same letter answer as

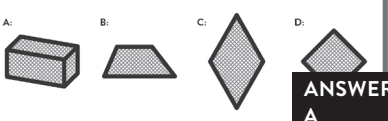


All of these shapes are quadrilaterals
One of these shapes is **not** a rhombus, rectangle
Which shape is it?
(Your partners have the same letter answer as

A: Area of rectangle 3 = Area of rectangle 1
B: Area of rectangle 4 > Area of rectangle 2
C: Area of rectangle 1 < Area of rectangle 4
D: Not enough information to tell

These two rectangles are the same size. Each rectanc
into two equal-sized pieces. Select the true st

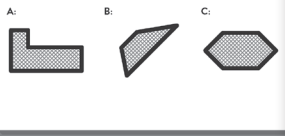
(Your partners have the same letter answer as



Which figure is **not** a quadrilateral?

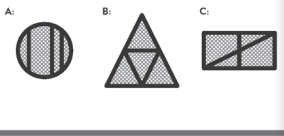
(Your partners have the same letter answer as you do.)

ANSWER
A



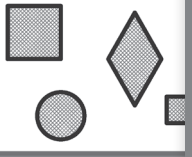
Which figure is a quadrilateral?

(Your partners have the same letter answer as



Which shape has four equal parts?

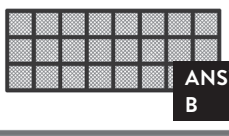
(Your partners have the same letter answer as



A: Square
B: Circle
C: Rhombus
D: Rectangle

Which shape does **not** have at least two equa

(Your partners have the same letter answer as



A: 8 square units
B: 24 square units
C: 16 square units
D: 28 square units

What is the area of this rectangle?

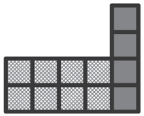
(Your partners have the same letter answer as you do.)

ANSWER
B

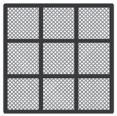
GRADE 3 GROUPINGS

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

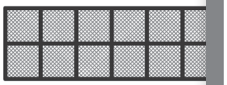
ANSWER 12



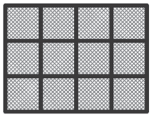
These two rectangles are divided into equal-sized
What is the total area of the two shapes in squ



The area of this figure is 9 square inch
How many square inches is its perimet

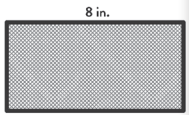


Jo wants to find the area of this rectang
She thinks the best way is to multiply the side
What answer does she get?
(Would she get the same answer if she counted the



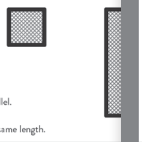
Andrew wants to find the area of this rectangle.
He thinks the best way is to count the unit squares inside it.
What answer does he get?
(Would he get the same answer if he multiplied the side lengths?)

ANSWER C



Rafe measured a rectangle. What is the width of t

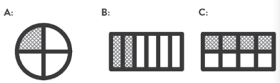
(Your partners have the same letter answer as



A: Both are quadrilaterals.
B: Both have opposite sides that are parallel.
C: Both are open figures.
D: Both have opposite sides that are the same length.

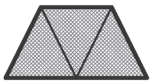
Select the statement that is **not** true about squares

(Your partners have the same letter answer as



Each of these shapes is divided into equal-siz
Which shape has one-half shaded?

(Your partners have the same letter answer as

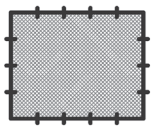


A: The big figure is a quadrilateral.
B: The big figure is a trapezoid.
C: The big figure is a rectangle.
D: Each triangle is one-third the size of the big figure.

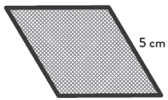
The triangles inside the figure are equal in size.
Which statement is **not** true?

(Your partners have the same letter answer as you do.)

ANSWER 20

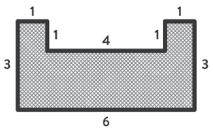


How many square units are contained in this



How many centimeters is the perimeter of this

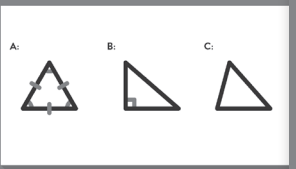
The area of each small triangle is 5 square
What is the area of the square in square u



What is the perimeter of this shape?

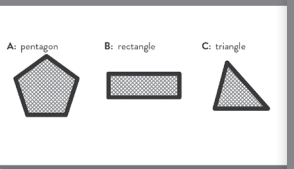
Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

GRADE 4 GROUPINGS



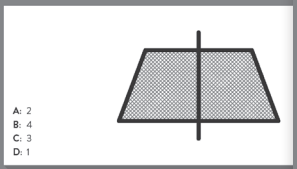
Which triangle is a right triangle?

(Your partners have the same letter answer as



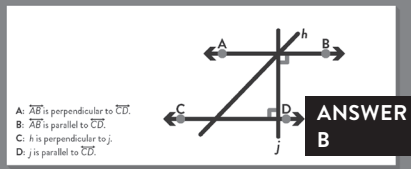
Which shape has parallel sides?

(Your partners have the same letter answer as



This trapezoid has one line of symmet
How many lines of symmetry does a square

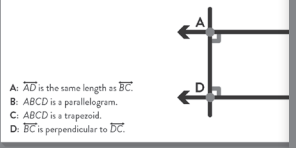
(Your partners have the same letter answer as



Which statement is true?

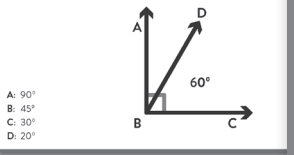
(Your partners have the same letter answer as you do.)

ANSWER B



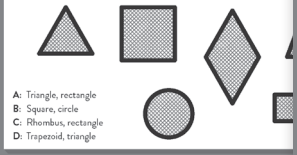
Donna said that $\overline{AB}$ is parallel to $\overline{DC}$. What els

(Your partners have the same letter answer as



$\angle ABC$ is a right angle. What is the measure o

(Your partners have the same letter answer as



Which pair of shapes shares a common attribute—

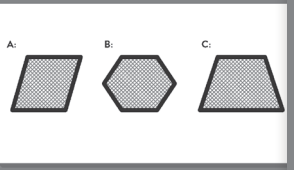
(Your partners have the same letter answer as

Grafton said, "The four angles in a square and in a rectangle have the same total number of degrees." How many degrees are in a square?

(Your partners have the same letter answer as you do.)

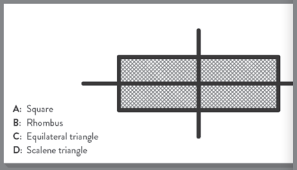
ANSWER C

Meg is thinking of a shape: "It is a quadrilateral. One sides is parallel, but the sides are not equal in
What is the shape?
(Your partners have the same letter answer as



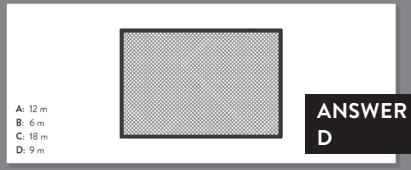
One of these shapes contains a right angle. Which

(Your partners have the same letter answer as



This rectangle has only two lines of symm
Which shape does not have any lines of sym

(Your partners have the same letter answer as



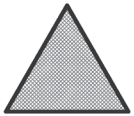
Mike knows that the area of his rectangular living room is 54 square meters. He also knows that the width of the room is 6 meters.
What is the length of Mike's living room?
(Your partners have the same letter answer as you do.)

ANSWER D

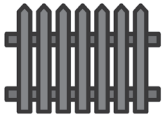
GRADE 4 GROUPINGS

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

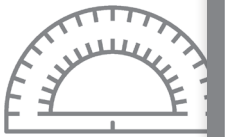
ANSWER
3



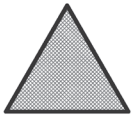
How many lines of symmetry does an equilateral t



A rectangular yard uses 24 meters of fencing. If the l
is 9 meters, how many meters is the width of

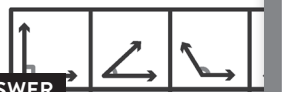


A circle has been partitioned into equal-size
Each angle measures 120 degrees. How many ang



An equilateral triangle has three sides of equal length.
How many equal angles does it have?

ANSWER
4

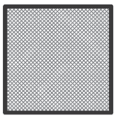


Marianne made this chart. How many of her entri

(State your answer as a number.)

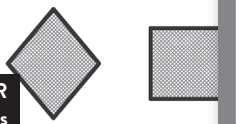
Frederick says, "Begin with the number of vertices
Then subtract the number of vertices in a re
Divide this number in half. Now, square that
Find the answer to Frederick's puzzle

A lawn sprinkler turns 90 degrees every n
How many minutes does the sprinkler take to mak

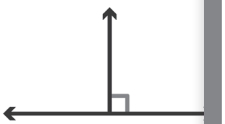


A square living room needs 16 square feet of carpeting
to cover the floor exactly. How many feet long is one side of the room?

ANSWER
yes



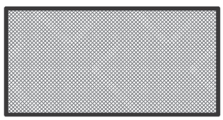
Josh said, "The length of the side of a rhombus is 7
length of the side of a square is 7 inches. I think that
these two figures will be the same." Do you agree
(If you agree, the answer is "yes." If you disagree, the



Isabella said, "A straight angle is made up of two
so a straight angle must measure 180 degrees. 90
Is Isabella correct?
(If you agree, the answer is "yes." If you disagree, the

Michael says, "A right angle can be broken into two
Do you agree with Michael?

(If you agree, the answer is "yes." If you disagree, the



Pedro says, "A rectangle cannot have an obtuse angle." Is Pedro correct?

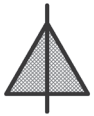
(If you agree, the answer is "yes." If you disagree, the answer is "no.")

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

GRADE 4 GROUPINGS

Maria says that all of these figures are rays. Is

(If you agree, the answer is "yes." If you disagree, the



Cindy says, "This equilateral triangle has one line
Do you agree with Cindy?

(If you agree, the answer is "yes." If you disagree, the

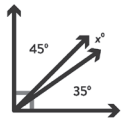
Robert said, "All triangles have at least one line o
Is Robert correct?

(If you agree, the answer is "yes." If you disagree, the

Ellie says, "Any line contains just two points." Do you agree with Ellie?

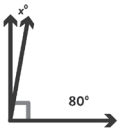
(If you agree, the answer is "yes." If you disagree, the answer is "no.")

ANSWER
no



What is the value of *x*?

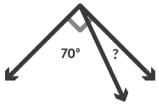
Goldie presented the following problem to her
"Find the total number of degrees in any re
Divide that number by 36. What is the re



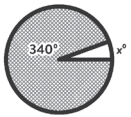
What is the measure of the missing ang

A triangle has angles that measure 50° and 120°.
How many degrees is the third angle?

ANSWER
10

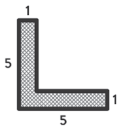


How many degrees is the smaller angl



What is the value of *x*?

One angle is 4 times larger than the other
Together, the measure of the two angles is 100
How many degrees does the smaller angle m



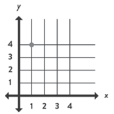
An L-shaped yard has an area of 9 square feet.
How many feet long is its perimeter?

ANSWER
20

GRADE 5 GROUPINGS

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

ANSWER B



What is the coordinate of the indicated p

(Your partners have the same letter answer a

A: A square is a special rectangle.
B: A rhombus is a special rectangle.
C: A square and a rectangle both have four 90 degree angles.
D: A rhombus and a square have four equal sides.

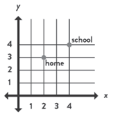
Which statement is **not** true about the above

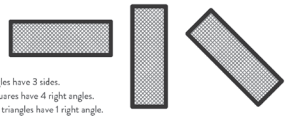
(Your partners have the same letter answer a

A: 12
B: 6
C: 3
D: 8

How many blocks must Jimmie walk to get t
and back home again? (He cannot cut across a

(Your partners have the same letter answer a



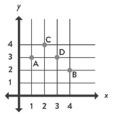


A: Triangles have 3 sides.
B: All squares have 4 right angles.
C: Some triangles have 1 right angle.
D: Diagonals of a rectangle are the same length.

Sonia said, "I know that all rectangles have 4 right angles."
Based on this fact, what else can Sonia conclude?

(Your partners have the same letter answer as you do.)

ANSWER C



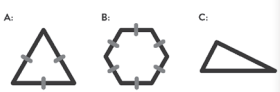
Which point has a *y*-coordinate that is twice its *x*

(Your partners have the same letter answer a

A: A triangle can have two right angles.
B: A scalene triangle has two angles that are congruent.
C: A right triangle can be scalene or isosceles.
D: An equilateral triangle has three congruent angles, but the sides may

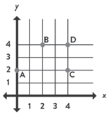
Which statement is true?

(Your partners have the same letter answer a



Which shape is **not** like the others?
Discuss with your partners why this is t

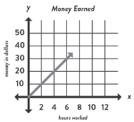
(Your partners have the same letter answer a



Which point is located 4 units to the right of the origin
and 2 units above the origin?

(Your partners have the same letter answer as you do.)

ANSWER 45

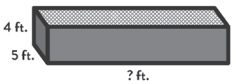


Pedro earns an hourly rate walking dogs. Use the gra
how many dollars he will earn for 9 hours

Sally is packing a box with cubic-centimeter
How many can she fit in a box that meas
3 cm long, 3 cm wide, and 5 cm tall?

4,500 cm = ☐

What value goes in the box?



The volume of a rectangular prism is 900 cubic feet.
How many feet long is the missing side?

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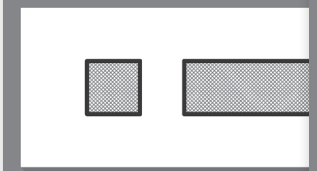
GRADE 5 GROUPINGS

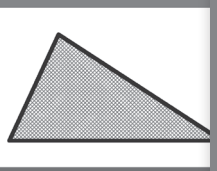


Gracie says that all rectangles have 4 right angles. Th
squares must be rectangles because squares have

(If you agree, the answer is "yes." If you disagree, the

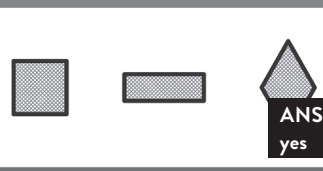
Manny thinks that a right triangle can be
scalene or isosceles but not equilatera

(If you agree, the answer is "yes." If you disagree, the



Desmond thinks that acute triangles have thr
that measure greater than 0 degrees but less than

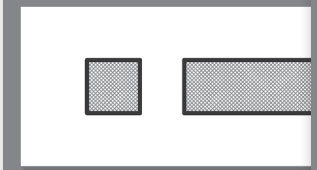
(If you agree, the answer is "yes." If you disagree, the



Sarah says, "All rectangles are also parallelograms."

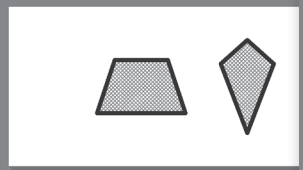
(If you agree, the answer is "yes." If you disagree, the answer is "no.")

ANSWER
yes



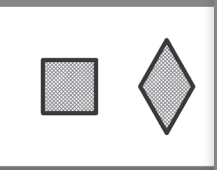
Matt states that rectangles have all the same proper

(If you agree, the answer is "yes." If you disagree, the



Luke thinks that trapezoids and kites have all the sa
because they are both quadrilaterals.

(If you agree, the answer is "yes." If you disagree, the



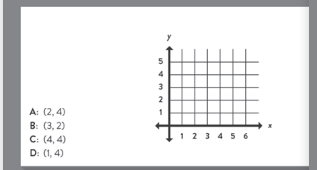
Mary Ann says that rhombuses are really s
because they both have 4 equal sides.

(If you agree, the answer is "yes." If you disagree, the

Angus stated that an obtuse triangle has three angles
that all measure greater than 90 degrees.

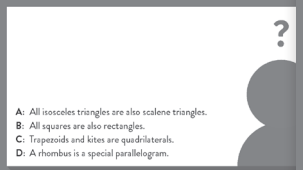
(If you agree, the answer is "yes." If you disagree, the answer is "no.")

ANSWER
no



A: (2, 4)
B: (3, 2)
C: (4, 4)
D: (1, 4)

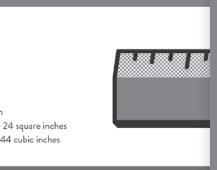
Michael started at the origin and counted a tota
before placing a point. Which ordered pair migh
the point on the coordinate plane?
(Your partners have the same letter answer a



A: All isosceles triangles are also scalene triangles.
B: All squares are also rectangles.
C: Trapezoids and kites are quadrilaterals.
D: A rhombus is a special parallelogram.

Which statement is **not** true?

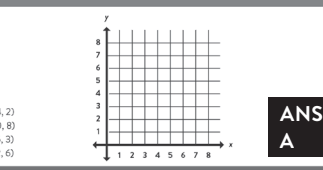
(Your partners have the same letter answer a



A: 5.1 cm = 51 mm
B: 2 square feet = 24 square inches
C: 1 cubic foot = 144 cubic inches
D: 150 cm = 15 m

Which statement is true?

(Your partners have the same letter answer a



A: (4, 2)
B: (0, 8)
C: (5, 3)
D: (2, 6)

Betsy started at the origin and counted a total of 8 units
before placing a point. Which ordered pair might represent
the point on the coordinate plane?
(Your partners have the same letter answer as you do.)

ANSWER
A

GRADE 5 GROUPINGS

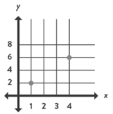
Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

ANSWER
D

has many sides.
has some congruent sides.
has some congruent angles.
has congruent angles and congruent sides.

Roberto asked, "What is a regular polyg
Choose the correct definition.

(Your partners have the same letter answer a

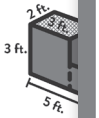


A: (2, 4)
B: (4, 0)
C: (1, 4)
D: (4, 2)

Mary plotted (4, 6) and (1, 2) on the graph. If she wa
right triangle, where could she place the thir

(Your partners have the same letter answer a

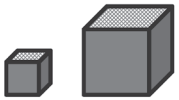
A: The volume of the small rectangular prism is 6.0 cubic feet.
B: The area of the base of the large rectangular prism is 6 square feet.
C: The total volume is the sum of the volumes of the two prisms.
D: The total volume is 36 cubic feet.



Which statement about the above figure is n

(Your partners have the same letter answer a

A: The volume becomes twice as much.
B: The volume increases by 2 cubic units.
C: The volume is 4 times greater.
D: The volume is 8 times greater.



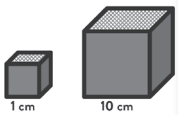
A cube has sides that measure 1 inch. What will happen
to the volume of the cube if the side measure is doubled?

(Your partners have the same letter answer as you do.)

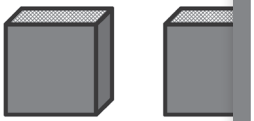
ANSWER
1,000

14 m = 14,000 mn
1,500 g = 1.5 kg
2,000 m = 2 km

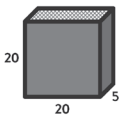
What value did Joe multiply or divide
to make each of these conversions?



The volume of the larger cube is how many tim
than the volume of the smaller cube?



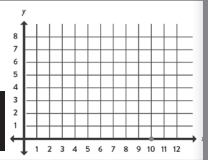
Two cardboard boxes each measure 10 in. × 10
Together, how many cubic inches do the two be



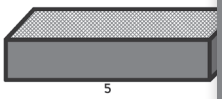
What is the volume of this rectangular prism?

Your team's answer is the volume of this prism cut in half.

ANSWER
10



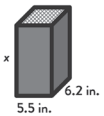
How far is this point from the origin



A rectangular prism measures 5 cm by 2 cm
How many cubic centimeters is its volu

□ mm = 1 cr

What value goes in the box?



The volume of this rectangular prism is 341 cubic inches.
Find the height of the prism (*x*) in inches.

To see all Common Core Collaborative Cards available, visit:

didax.com/cards

GEOMETRY
TEACHER GUIDE

Practice and reinforce the content from the Common Core State Standards with these innovative activity cards.

Created using the standards in the Geometry domain, these cards actively engage students in problem solving and promote mathematical discussion. Students solve the question on their individual card and then look for others who have the same solution. The four students holding cards with the same answer form a group; the back of their cards show the role that each student will play as the group works on the next task. Based on the most recent research about the effectiveness of collaborative learning, and in accordance with the Common Core Mathematical Practices, these card sets can be used repeatedly to group students for an upcoming unit or problem-solving lesson. Cards can also be used for small-group instruction or as an independent activity. Each set includes 40 durable, two-color cards per grade level for a total of 120 cards. (Each grade-level deck includes four blank cards for teachers to create their own content.) Teacher Guide includes suggestions for classroom use, activities, and access to website with additional tasks and resources.

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