



**THIRD SPACE
LEARNING**

37 Math Problems For 3rd Graders

37 3rd Grade Math Problems
With Answers And Worked
Examples

3rd grade

How to use this resource

Here is a collection of third grade math problems organized by concepts, including math word problems and reasoning problems. Each problem has an answer key, a worked example and a detailed explanation of how to answer the question.

These are suitable for use as:

- Additional practice before an assessment
- A Do Now activity
- An Exit Slip to check for understanding after a lesson

Addition Math Problems

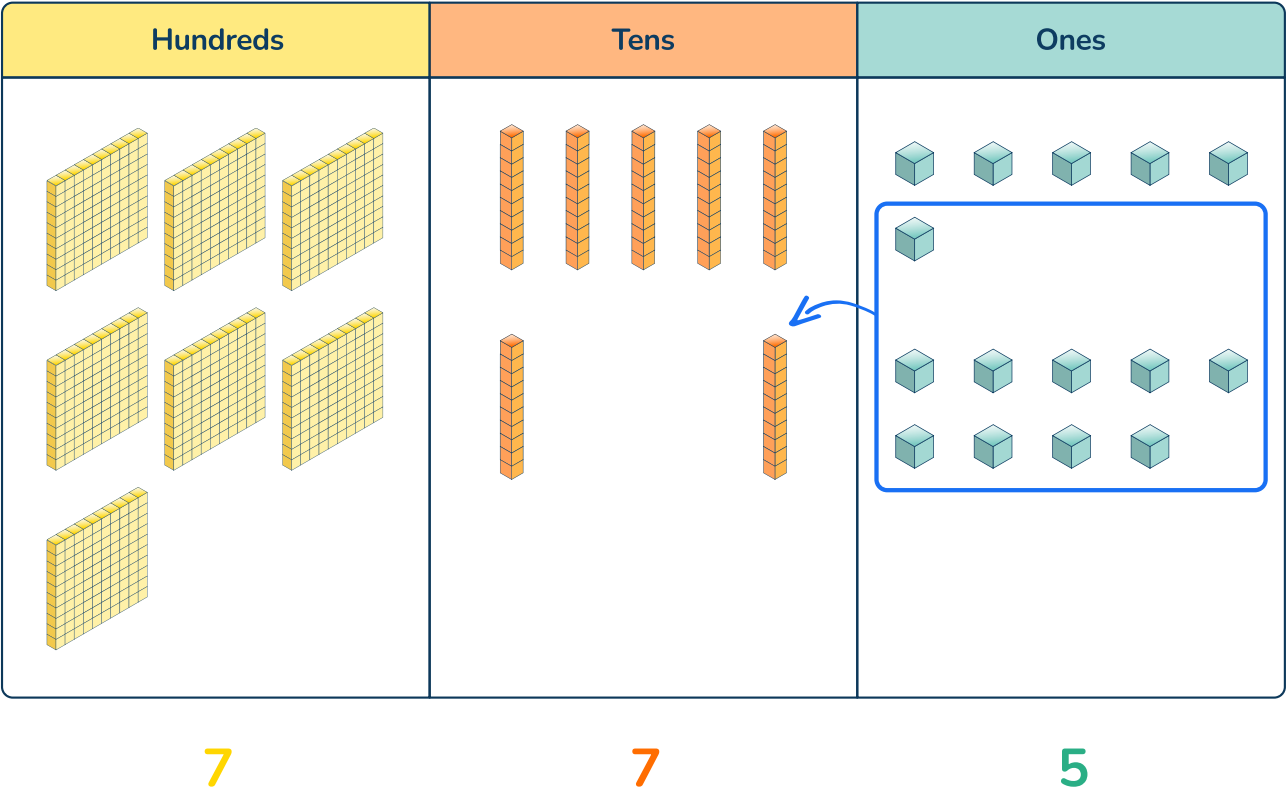
1. A local charity collected 356 canned food items in September. They collected 419 canned food items in October. How many canned food items did they collect during the two months?

Answer:

☐ 775

Students apply strategies based on place value when solving multi-digit addition problems. A place value chart is a great tool to help organize and record their thinking as they work with values that may require regrouping.

In this problem, students solve an addition problem that involves regrouping in one place, from ten ones to one ten.



Addition Math Problems

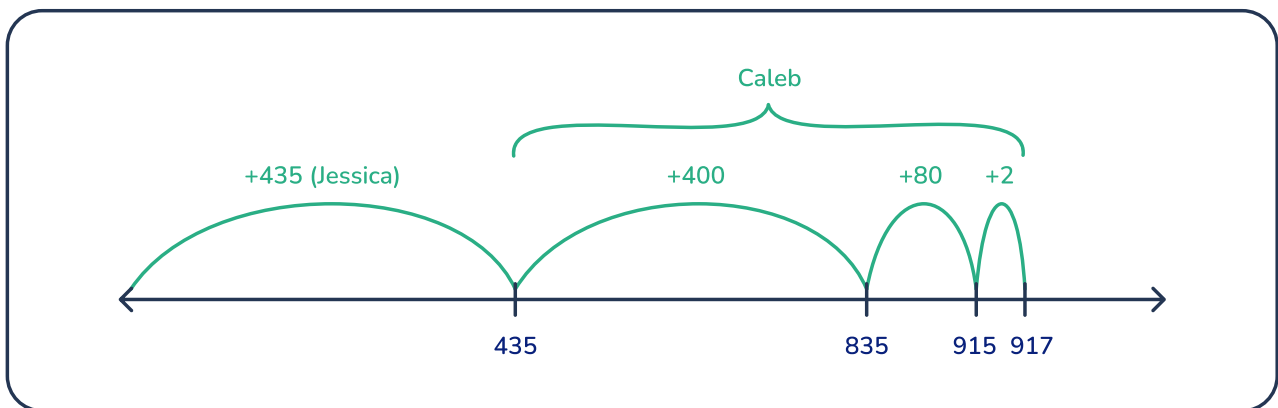
2. Jessica and Caleb were both sharing their baseball card collections with their class. Jessica has 435 baseball cards in her collection and Caleb has 482 baseball cards in his collection. How many total baseball cards did they both collect?

Answer:

☐ 917

An open number line is another valuable tool that students can draw on anytime. They can use multiple addition strategies on a number line. For example, they might start with an amount and then add on the hundreds, tens and ones of the second number.

Another strategy is adding the hundreds from both addends, then the tens, and the ones. No matter the strategy, number lines are great visuals for students to record their thinking and refer back to it in their explanations.



Addition Math Problems

3. Sabrina had 267 beads to use for making bracelets. Her mom bought her a new pack of 135 beads. How many beads does Sabrina have now?

Answer:

☐ 402 beads

This problem requires regrouping of ones to tens, and tens to hundreds. Students should have experience regrouping in one or more places when adding within 1,000.

The partial sum strategy helps set the foundation for using an algorithm in fourth grade to add greater multi-digit numbers.

	2	0	0	+	6	0	+	7
+	1	0	0	+	3	0	+	5
	3	0	0	+	9	0	+	12

300 + 90 + 10 + 2

300 + 100 + 2

400 + 2

402

Subtraction Math Problems

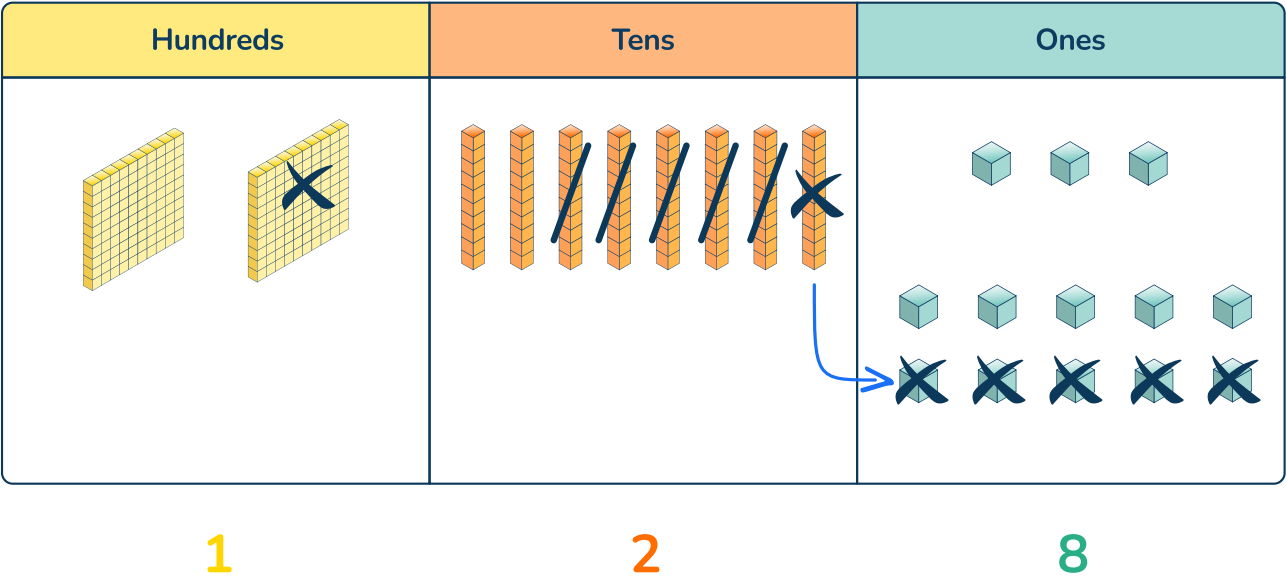
4. 283 guests were waiting to ride a ferry boat to get to the entrance of a theme park across the lake. Only 155 guests can ride the ferry boat at a time. How many guests will have to wait for the next ferry boat to arrive?

Answer:

☐ 128 guests

When completing subtraction word problems, make connections between strategies students use to add within 1,000 and subtract within 1,000. This strengthens their understanding of the relationship between addition and subtraction, and place value.

Similarly to addition, students can use a place value chart to help them with regrouping when subtracting 2 or 3-digit numbers. In this problem, students need to regroup 1 ten for 10 ones.



Subtraction Math Problems

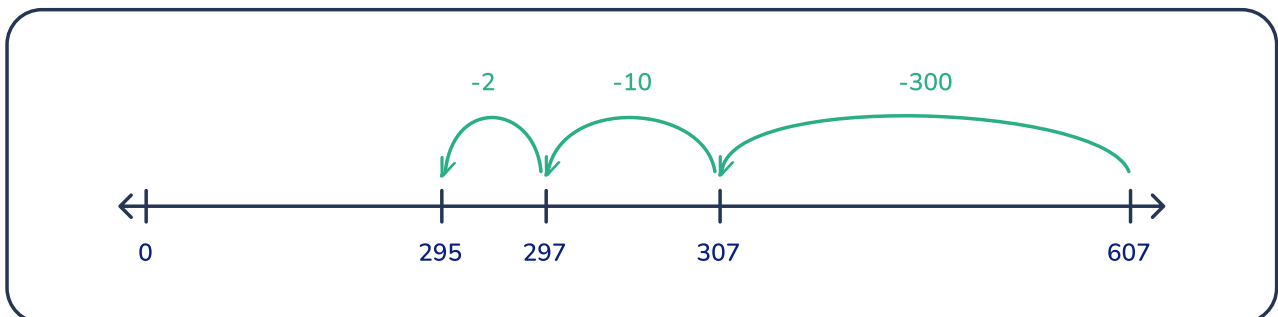
5. Andrew and his family drove 607 miles to get to their hotel. They made one stop after driving for 312 miles. How many more miles did they have to drive to get to the hotel?

Answer:

☐ 295

Using a number line to subtract, or count back, may confuse some students. Remind students to use strategies that make sense to them. They may start with one number and subtract the hundreds, tens, and then ones of the second number.

Some students prefer to subtract using place value, while others subtract until they get to a multiple of 10 and continue subtracting from there.



Subtraction Math Problems

6. Josie had \$168 at the beginning of the week. She spent \$27 at the mall on Tuesday. She worked on Thursday and earned some money. She ended the week with \$195. How much money did she earn on Thursday?

Answer:

☐ \$54

This problem includes both addition and subtraction and provides an opportunity for students to write an equation using a letter as the unknown value. Students can use the relationship between addition and subtraction to determine what the letter represents.

$$168 - 27 + s = 195$$

$$141 + s = 195$$

$$195 - 141 = s$$

$$54 = s$$

Multiplication Math Problems

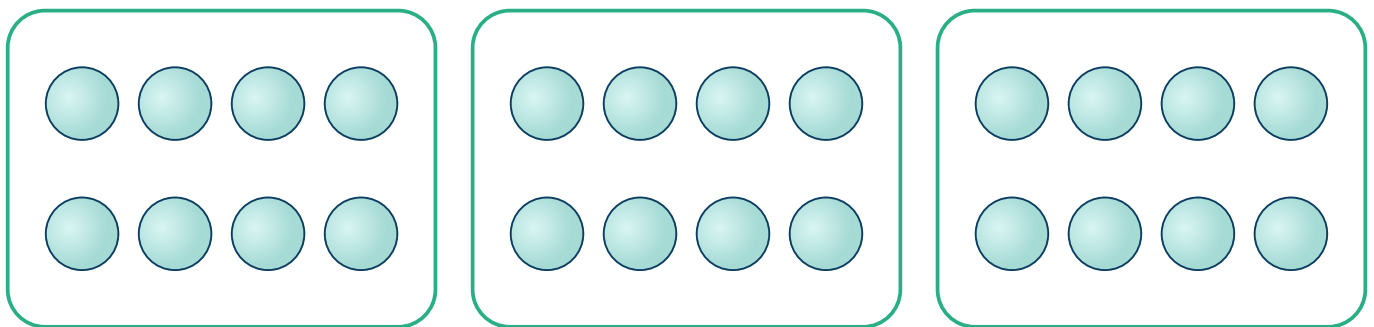
7. There are 8 dry-erase markers in one pack. How many dry-erase markers are in 3 packs?

Answer:

☐ 24

3rd graders explore equal groups. They can do this using an array. Students must understand that the one factor is the number of groups and the other is the number in each group.

 **Example** 3×8 can be represented using the following array:



Multiplication Math Problems

8. Find the product of $5 \times 3 \times 4$

Answer:

☐ 60

Learners explore associative property in 3rd grade as well as commutative property and distributive property.

When evaluating multiplication expressions with three or more factors, students learn that the way they group the factors to multiply does not change the value of the product.

Encourage students to start with the two factors that seem the friendliest to multiply, but to also keep in mind how confident they will feel when multiplying the product of those two factors with the next factor in the expression.

Other properties of multiplication that students will explore in 3rd grade include the:

- commutative property
- distributive property
- identity property
- zero property

$$5 \times 3 \times 4$$

$$(5 \times 3) \times 4$$

$$15 \times 4$$

$$60$$

or

$$5 \times (3 \times 4)$$

$$5 \times 12$$

$$60$$

or

$$(5 \times 4) \times 3$$

$$20 \times 3$$

$$60$$

Multiplication Math Problems

9. Find the product of 7×40 .

Answer:

☐ 280

$$7 \times 40 = 7 \times 4 \text{ tens}$$

$$7 \times 4 \text{ tens} = 28 \text{ tens}$$

$$28 \text{ tens} = 280$$

$$7 \times 40 = 280$$

Multiplication Math Problems

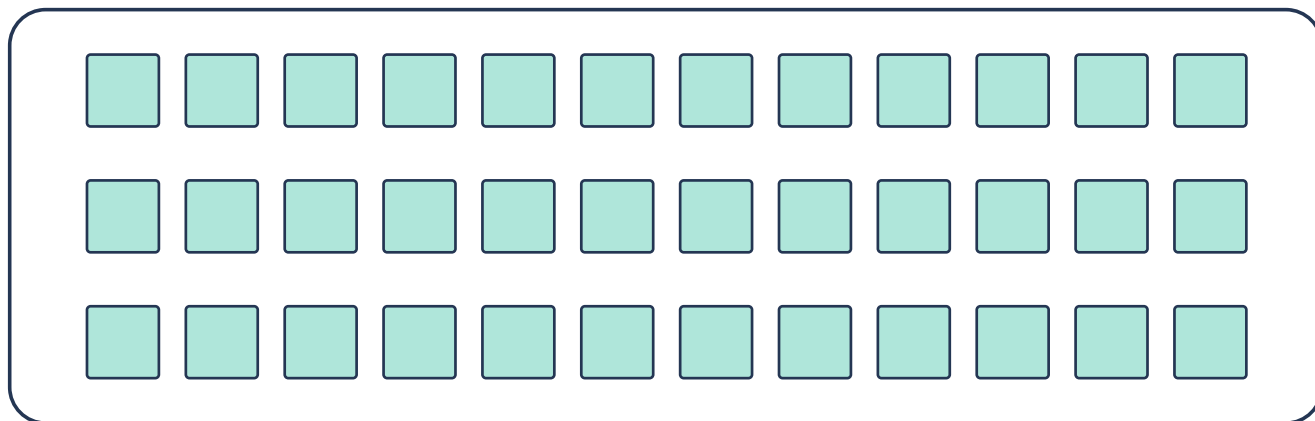
10. The school music teacher set up his classroom for an after-school chorus rehearsal. He formed 3 rows with 12 chairs in each row. How many chairs are in the classroom in total?

Answer:

☐ 36 chairs

Allow students to choose their method, whether it's using manipulatives or drawing pictures to represent the information in word problems.

Ask them where they see each value in their concrete model or picture.



Division Math Problems

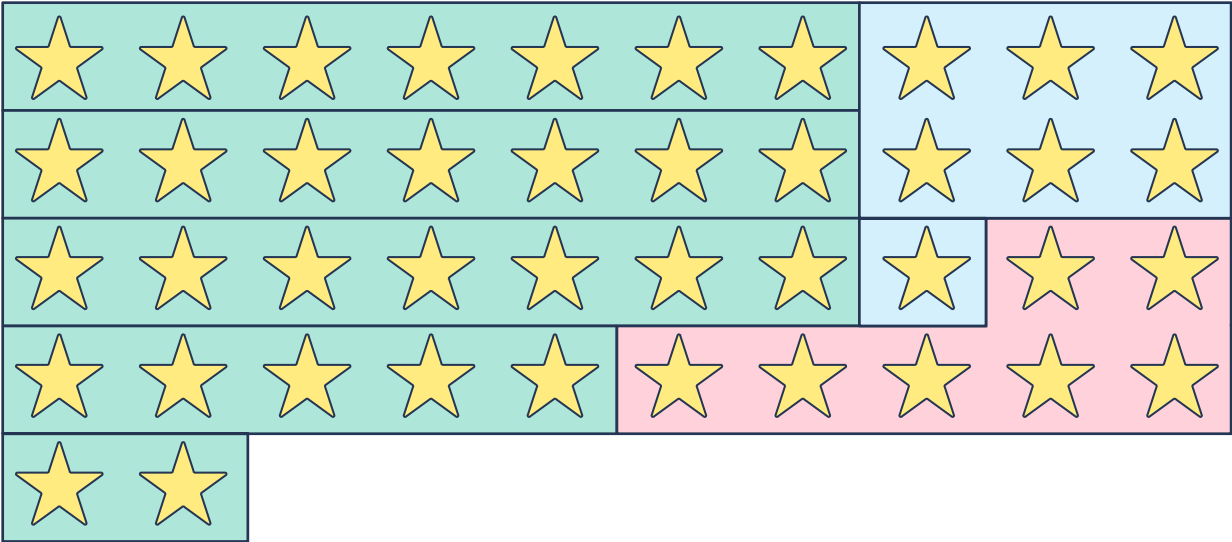
11. Zoe has 42 stickers. She wants to give 7 stickers to each of her friends at her birthday party. How many friends are at her birthday party?

Answer:

☐ 6 friends

Once students begin working with division, they tend to focus on specific keywords such as “each” and think that the problem represents multiplication. Students must model the actions of what is happening in the problem. Giving the same amount out multiple times will highlight the division and sharing equal amounts.

Encourage students to build and draw models to show their thinking. Ask them to explain their strategy to you, a partner, or the class for solving division word problems such as this one.



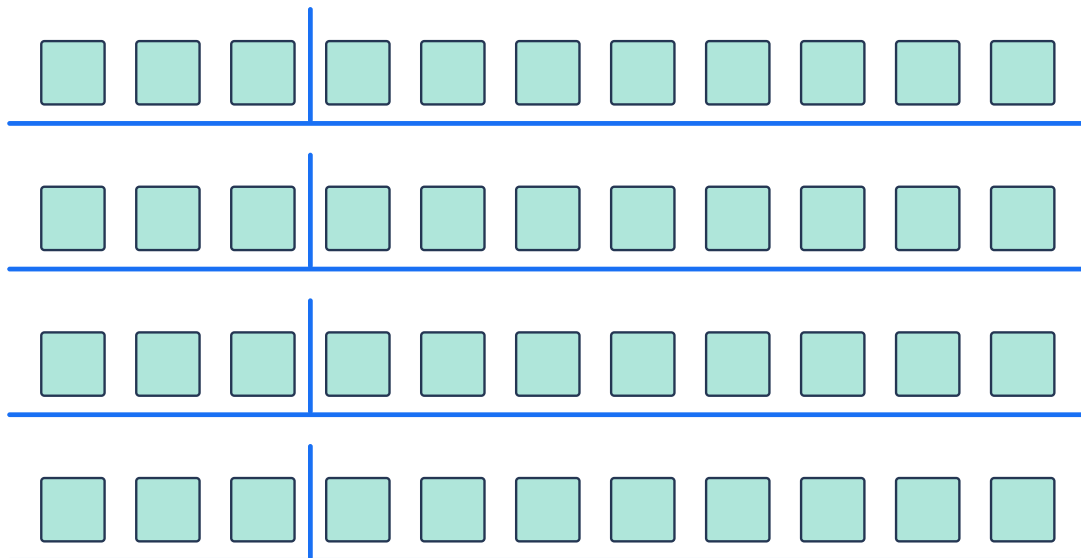
Division Math Problems

12. There are 3 boxes on each shelf in the backroom of a bookstore. 36 new boxes were delivered and must be placed on the 4 shelves. How many total boxes are on each shelf?

Answer:

☐ 12

$$3 + (36 \div 4)$$



Extend students' understanding of multiplication and division by pairing multiplication and division together, or with addition or subtraction. This enables students to solve two-step problems represented as an expression or equation.

Follow-up discussions to help students understand which operation they should solve first to set them up for success with the order of operations in fifth grade and beyond.

Division Math Problems

13. George ran 63 miles last week. If he ran every day last week, how many miles did he run each day?

Answer:

☐ 9 miles

Writing an equation to represent math word problems supports learners' understanding of the relationship between multiplication and division.

When learners write a division equation using a letter or question mark for the unknown number, they can rewrite the expression as a multiplication expression if they aren't confident with division facts.

A familiar multiplication equation may lead third graders to use mental math once they're fluent with multiplication facts.

$$63 \div 7 = m$$

$$7 \times m = 63$$

$$7 \times 9 = 63$$

Division Math Problems

14. Determine what the ? Represents in the equation. $48 \div 6 = ?$

Answer:

☐ 8

$$48 \div 6 = ?$$

$$6 \times ? = 48$$

$$6 \times 8 = 48$$

Rounding Math Problems

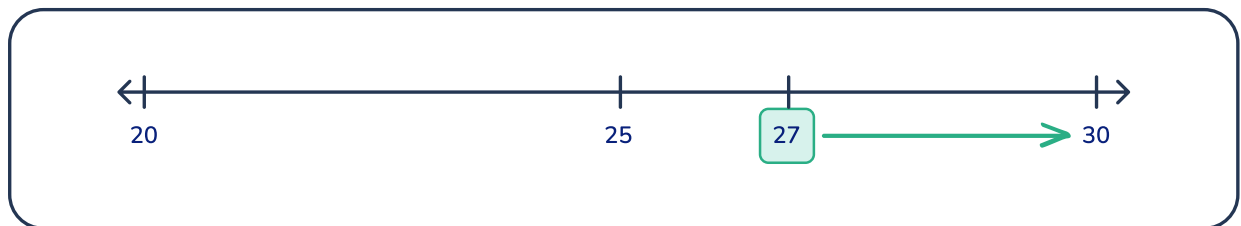
15. Round 27 to the nearest 10.

Answer:

☐ 30

Using a number line with a midpoint and two endpoints helps students visualize which tens or hundreds a whole number falls between.

Although number lines are not required to be used as a strategy in 3rd grade, they can be used to help students develop their rounding skills conceptually.



Rounding Math Problems

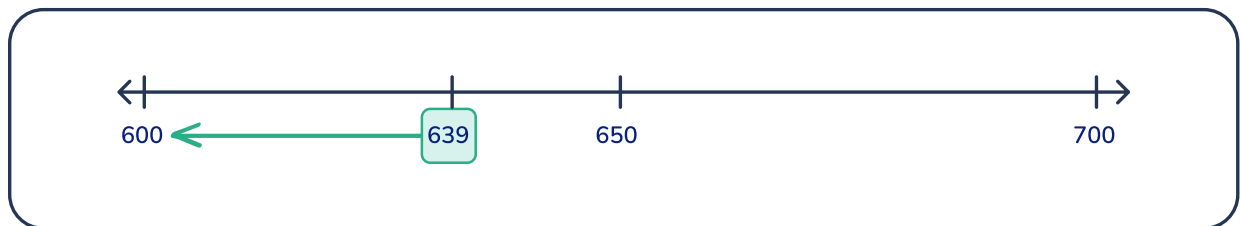
16. Round 639 to the nearest 100

Answer:

☐ 600

Using a number line with a midpoint and two endpoints helps students visualize which tens or hundreds a whole number falls between.

Although number lines are not required to be used as a strategy in 3rd grade, they can be used to help students develop their rounding skills conceptually.



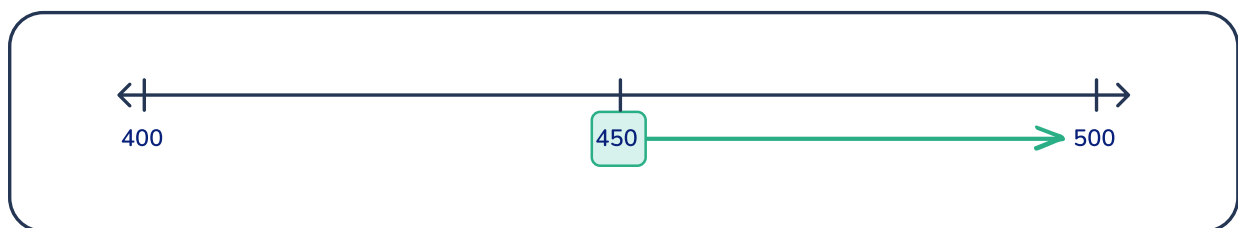
Rounding Math Problems

17. Round 450 to the nearest 100

Answer:

☐ 500

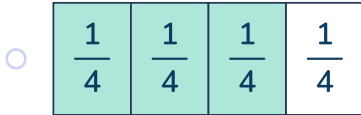
In some instances, a value is directly in the middle of the tens or hundreds. However, learners should know that if the digit being rounded is 5 or larger, then it must round up. 4 or less and the digit rounds down.



Fraction Math Problems

18. Represent the fraction $\frac{3}{4}$ by drawing a model.

Answer:



Fraction Math Problems

19. Count the parts and label each tick mark on the number line:

$$\frac{1}{8} \quad \frac{2}{8} \quad \frac{3}{8} \quad \frac{4}{8} \quad \frac{5}{8} \quad \frac{6}{8} \quad \frac{7}{8} \quad \frac{8}{8}$$



Answer:

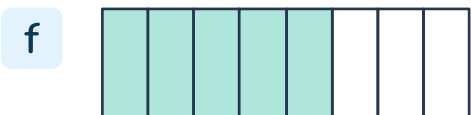
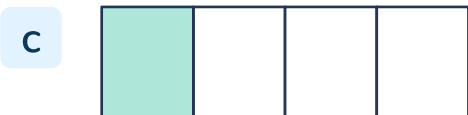
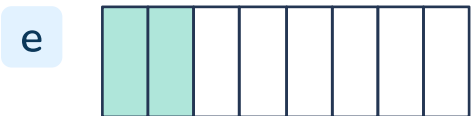
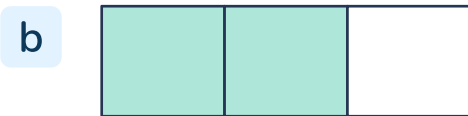
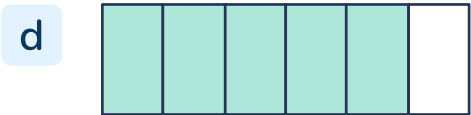
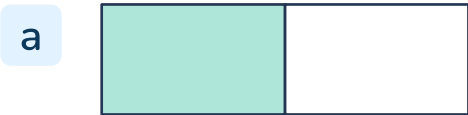


Discuss with students that the intervals or spaces between the tick marks represent the distance from one tick mark to the next tick mark or a unit fraction such as $\frac{1}{8}$.

The distance from zero to that point or tick mark is a different value labeled with a specific fractional value, such as $\frac{5}{8}$.

Fraction Math Problems

20. Select the equivalent models.



Answer:

☐ C and E

Equivalent fractions in third grade focus on visual models preparing them to explore finding equivalent fractions through operations in the fourth grade.

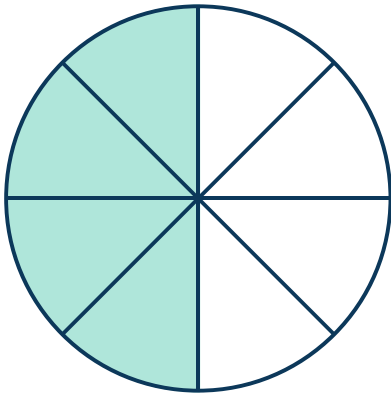
Fraction Math Problems

21. Which is greater, $\frac{4}{8}$ or $\frac{4}{6}$?

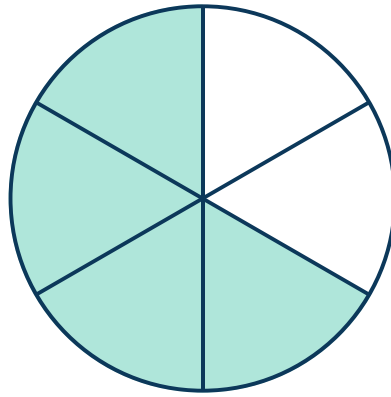
Write a comparison statement using the symbols $>$, $=$, or $<$.

Answer:

☐ $\frac{4}{8} < \frac{4}{6}$



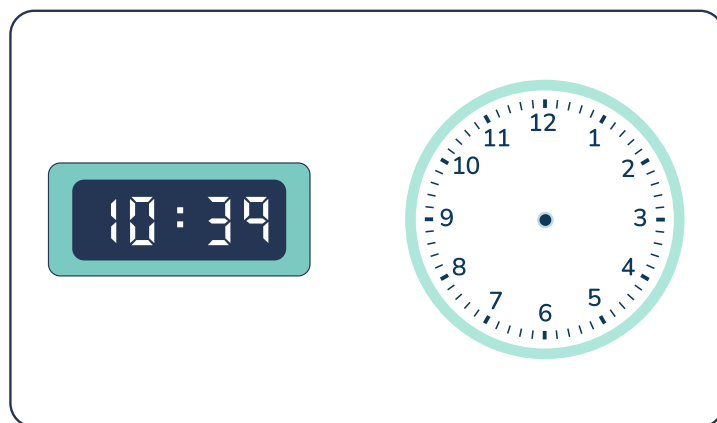
$$\frac{4}{8}$$



$$\frac{4}{6}$$

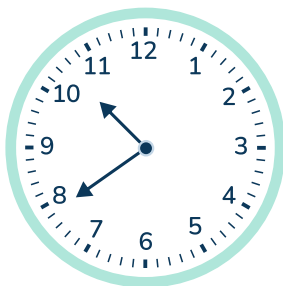
Time Math Problems

22. Represent the time shown on the digital clock by drawing on the analog clock.



Answer:

☐



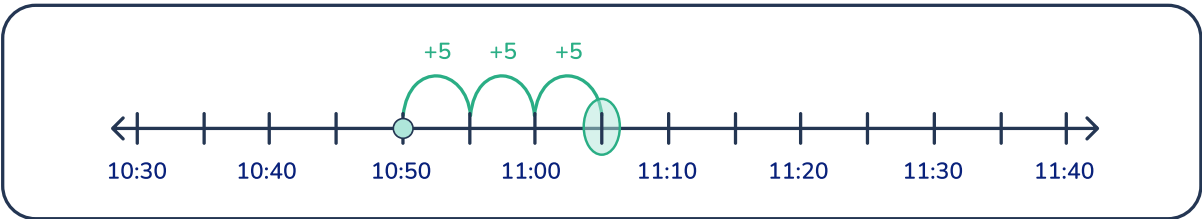
Time Math Problems

23. It is 10:50 a.m. and lunch begins in 15 minutes. What time will it be? Use the number line to show the time.

Answer:

☐ 11:05 a.m.

Students should use the number line to determine time in a way that makes sense.



Time Math Problems

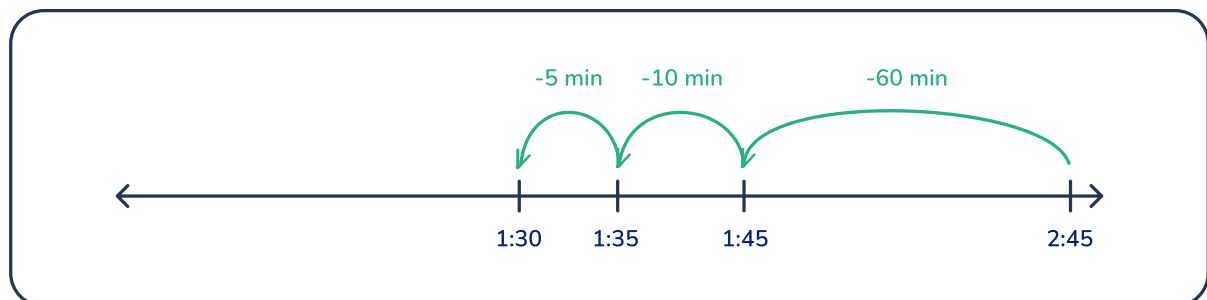
24. On Saturday, Angela left the park at 2:45 p.m. where she attended soccer practice for 75 minutes. What time did Soccer practice begin?

Answer:

☐ 1:30 p.m.

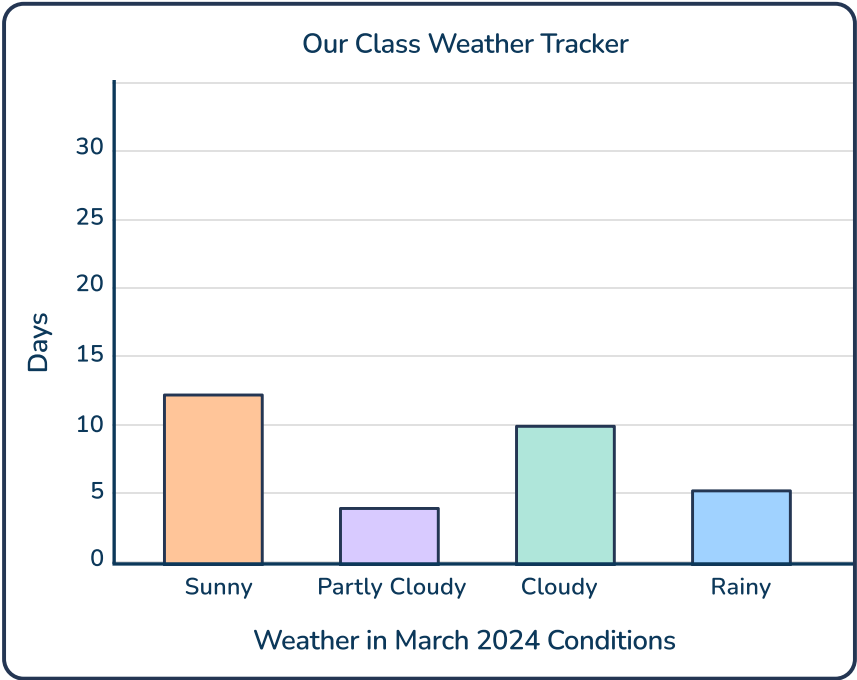
Working backwards to determine a time may seem challenging for some students. They may use a number line to subtract whole numbers.

Pay attention to how students maneuver counting back in time from the 1 o'clock hour into the 12 o'clock or morning time.



Data Math Problems

25. How many more cloudy days were there than rainy days in March?



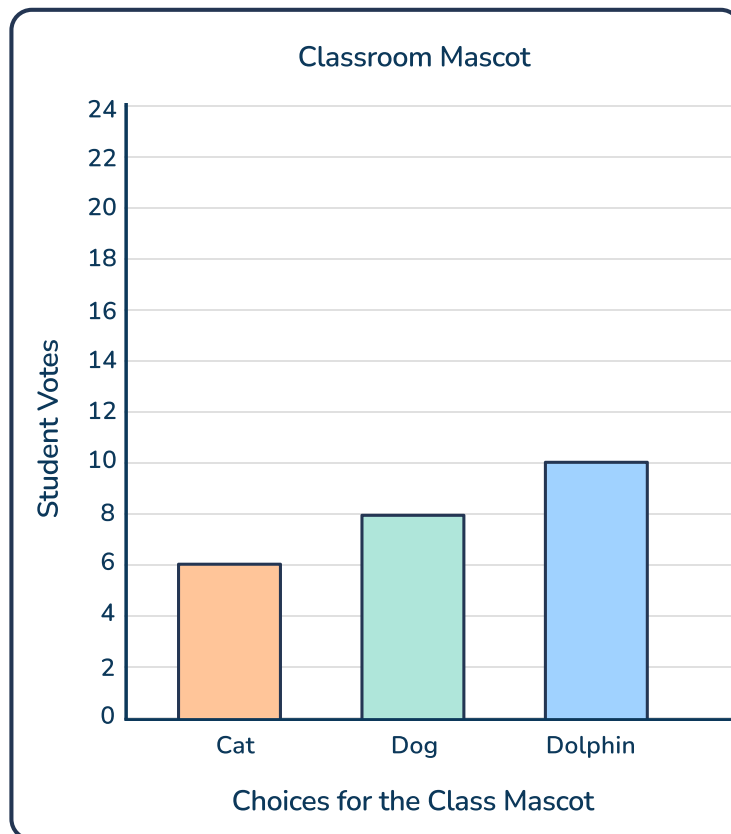
Answer:

☐ 5 days

In grade 3, students create and read graphs with scales greater than 1. If they struggle to interpret the information on a bar or picture graph, they can add tick marks between the intervals to count accurately.

Data Math Problems

26. The students in Mrs. Campbell's class voted on which animal should be their class mascot. The votes are shown on the graph.



How many fewer students voted for an animal that lives in the ocean than an animal that lives on land?

Answer:

☐ 4 students

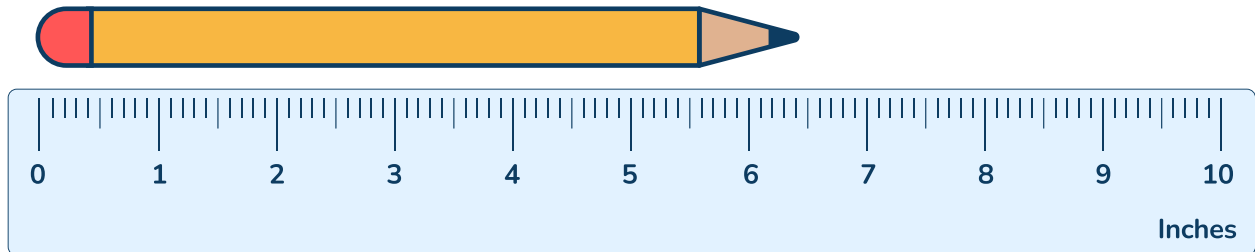
$$(8 + 6) - 10 = 4$$

Provide students with opportunities to solve one and two-step problems involving a picture or bar graph.

Problems should relate directly to “How many more?” and “How many less?” questions.

Data Math Problems

27. What is the length of the pencil measured to the nearest half or quarter of an inch?



Answer:

☐ $6 \frac{1}{2}$ inches

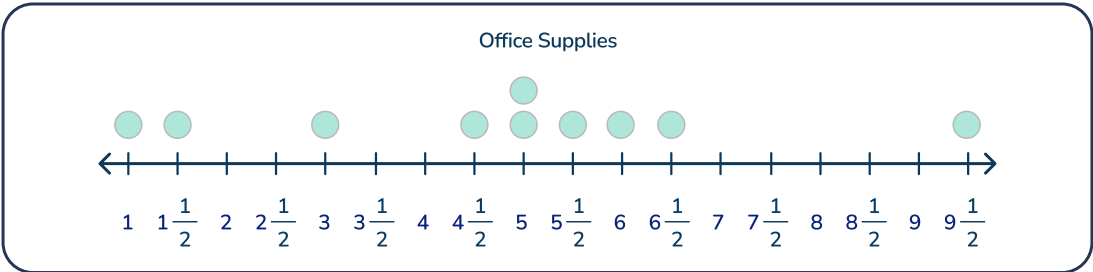
3rd grade students explore measuring objects with a ruler marked with halves and fourths of an inch. Examples like this bring math into real-life scenarios for working with fraction values. Students can see and hear how the terms fourths and quarters are used interchangeably regarding measurement.

Data Math Problems

28. Create a line graph to display the collected data.

Paper clip	1 in.	Dry-erase marker	$4\frac{1}{2}$ in.
Highlighter	$5\frac{1}{2}$ in.	Scissors	5 in.
Smartphone	$6\frac{1}{2}$ in.	Index card	5 in.
Notebook	$9\frac{1}{2}$ in.	Battery	$1\frac{1}{2}$ in.
Pen	6 in.	Glue stick	3 in.

Answer:

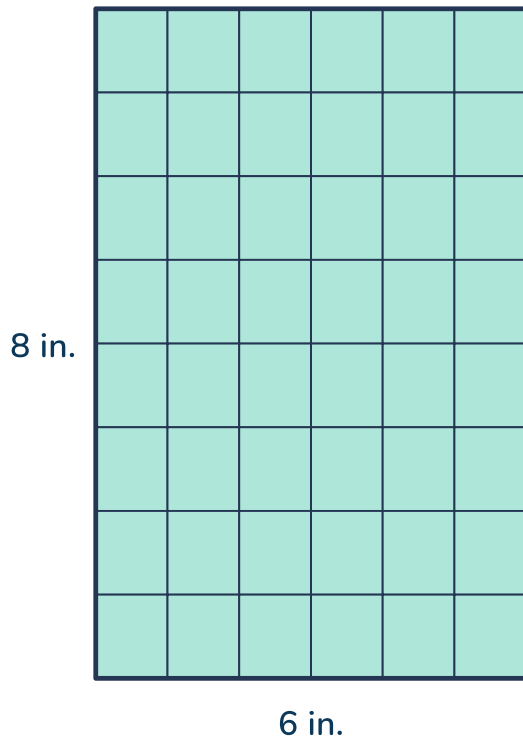


Students are introduced to line plots with whole number units in the 2nd grade. In the 3rd grade, students measure units to the nearest half or fourth and record the measurement of objects on line plots.

They extend their understanding of representing information on a line plot in 4th and 5th grade where they solve problems involving fraction operations.

Area Math Problems

29. Find the area of the rectangle.



Answer:

- ☐ 48 square units or 48in^2

Area Math Problems

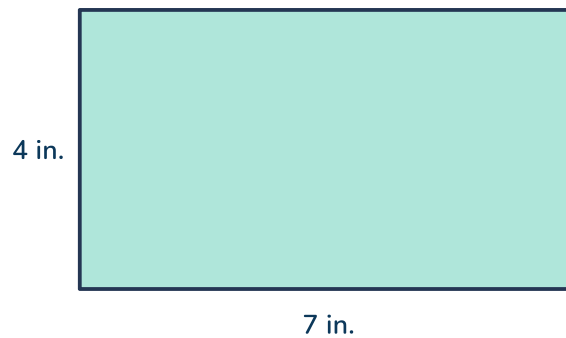
30. Jillian has a new painting to hang in her bedroom. The side lengths of the painting are 7 in. and 4 in. What is the area of the painting?

Answer:

☐ 28in²

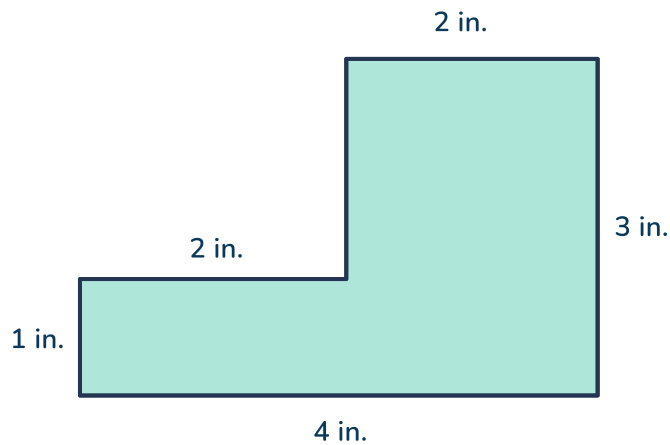
Students must understand that counting the number of tiles arranged as an array is the same as multiplying two of the given side lengths for a rectangle.

$$7 \times 4 = 28$$



Area Math Problems

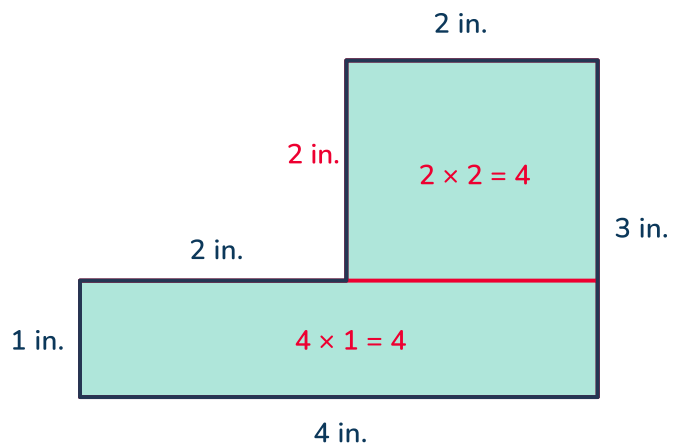
31. Find the total area of the figure.



Answer:

☐ 8 square inches or 8in^2

$$\begin{aligned} (2 \times 2) + (4 \times 1) \\ 4 + 4 \\ 8 \end{aligned}$$

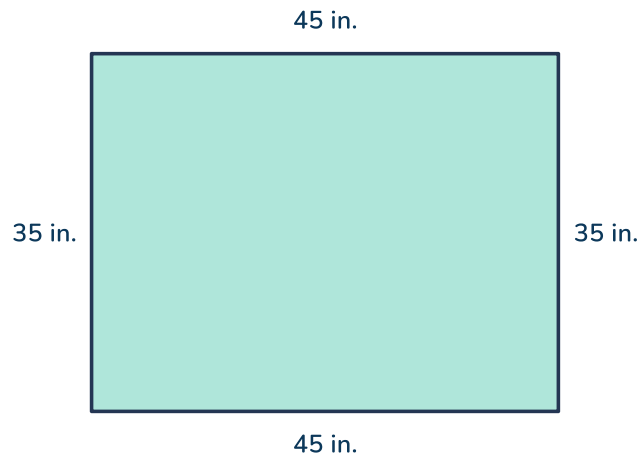


Learners apply their understanding of area to determine the area of rectilinear figures: figures composed of more than one rectangle.

A common misconception for some students is to multiply all of the side lengths. This is a great opportunity to relate the area to the distributive property by decomposing the figure into two separate rectangles. Then they can determine the area of each rectangle and add the two values together to find the total area.

Perimeter Math Problems

32. Find the perimeter of the bulletin board.



Answer:

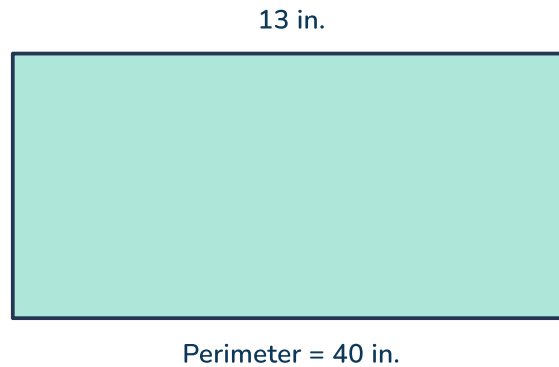
☐ 160 inches

Students need to add all of the side lengths together:

$$45 + 45 + 35 + 35 = 160$$

Perimeter Math Problems

33. The school garden has one side length of 13 feet. The perimeter of the garden is 40 feet. How long is the other side length?



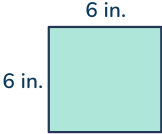
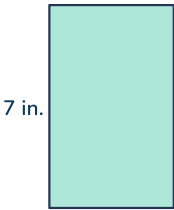
Answer:

☐ 7 feet

$$\begin{aligned}13 + 13 + s + s &= 40 \\(2 \times 13) + (2 \times s) &= 40 \\26 + (2 \times s) &= 40 \\40 - 26 &= 2 \times s \\14 &= 2 \times s \\14 \div 2 &= s \\7 &= s\end{aligned}$$

Perimeter Math Problems

34. **a** Which rectangles have the same perimeters but different areas?
- b** Which rectangles have the same area but different perimeters?

Rectangle 1	Rectangle 2	Rectangle 3	Rectangle 4
			

Answer:

- ☐ a. Rectangles 3 and 4 have the same perimeters and different areas.
- ☐ b. Rectangles 2 and 3 have the same area and different perimeters.

Reminder students the perimeter is the distance around the outside of a shape or object and the area is the number of square units needed to cover the space of the shape or object.

Rectangle 1: side length = 2, side length = 12

Perimeter: $12 + 12 + 2 + 2 = 28$

Area: $2 \times 12 = 24$

Rectangle 2: side length = 6, side length = 6

Perimeter: $6 + 6 + 6 + 6 = 24$

Area: $6 \times 6 = 36$

Rectangle 3: side length = 4, side length = 9

Perimeter: $9 + 9 + 4 + 4 = 26$

Area: $4 \times 9 = 36$

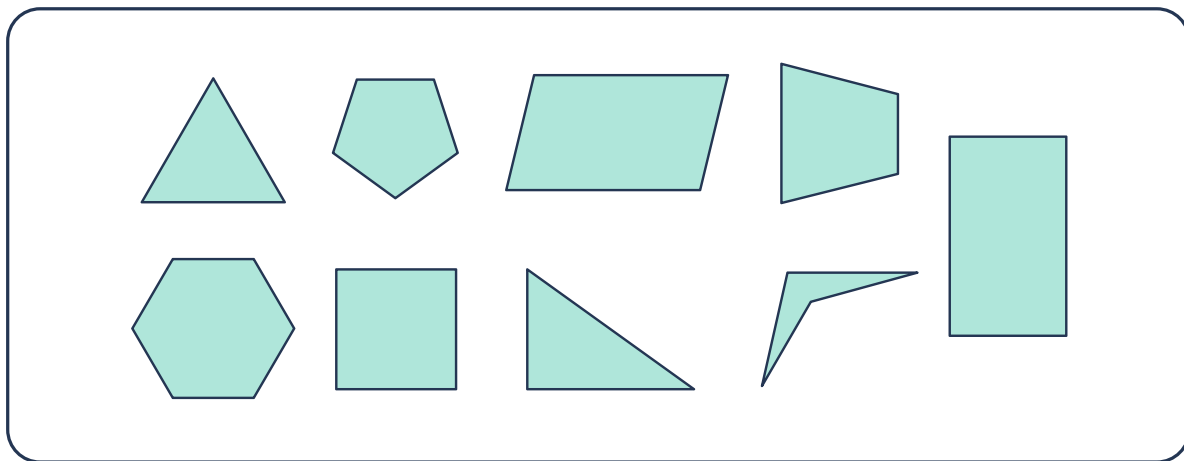
Rectangle 4: side length = 6, side length = 7

Perimeter: $6 + 6 + 7 + 7 = 26$

Area: $6 \times 7 = 42$

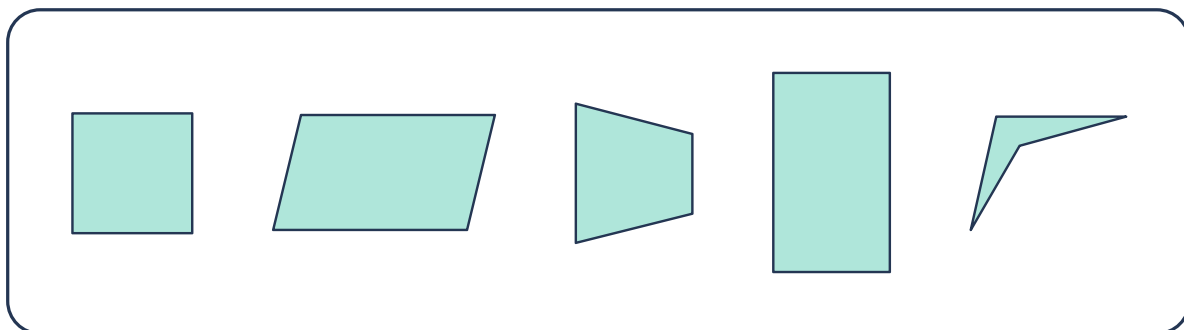
Geometry Math Problems

35. How many of the shapes are quadrilaterals?



Answer:

☐ 5 are quadrilaterals



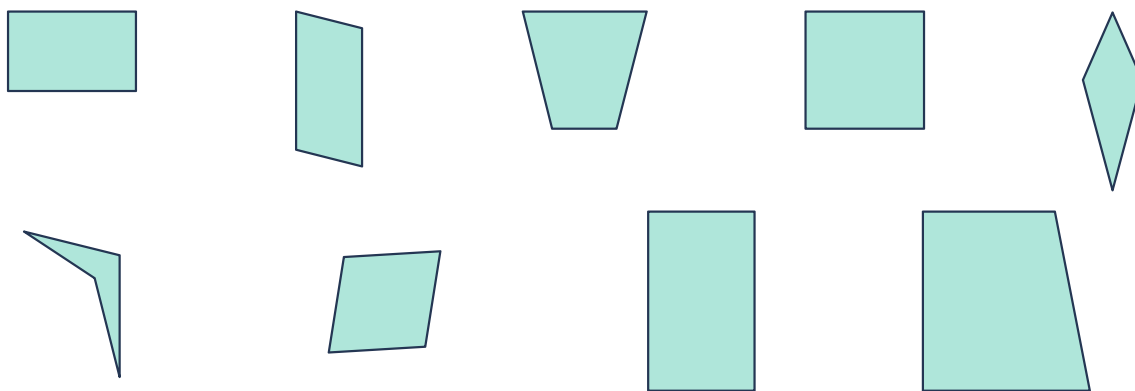
Provide printouts of the shapes and allow students to cut and sort the shapes into groups such as quadrilaterals or non-quadrilaterals.

Students may also draw a circle around shapes with four sides.

Geometry Math Problems

36. Count and record the number of quadrilaterals with

- a 0 pairs of parallel sides
- b 1 pair of parallel sides
- c 2 pairs of parallel sides

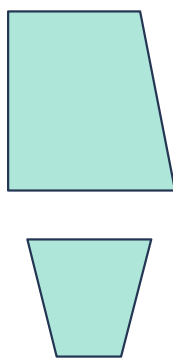


Answer:

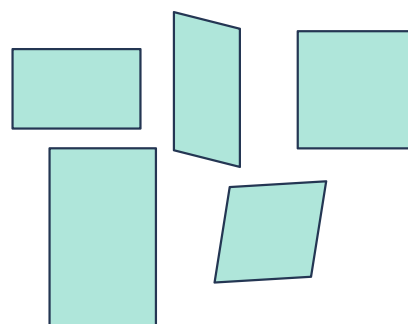
○ 0 parallel sides



1 pair of parallel sides



2 pairs of parallel sides



Geometry Math Problems

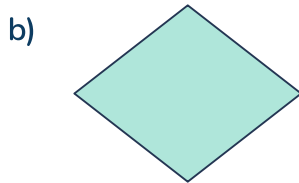
37. Draw the following 2D shapes:

- a Rectangle
- b Rhombus
- c Square
- d A quadrilateral that is not a parallelogram or trapezoids.

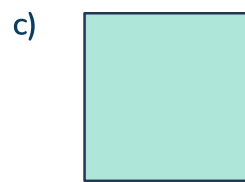
Answer:



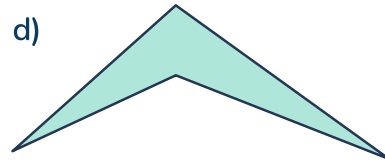
Rectangle



Rhombus



Square



Quadrilateral

Do you have a group of students who need a boost in math?

Each student could receive personalized lessons every week from our specialist one-on-one math tutors.

- ✓ Differentiated instruction for each student
- ✓ Aligned to your state's standards
- ✓ Scaffolded learning to close gaps

“We just had our first session and it went great! The kids really liked it and felt like they were learning! One even said he finally felt like math was making sense.”



Michelle Craig, Instructional Coach,
Sherwood Forest Elementary, Washington

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