

K:1 How many blocks?
 [Student tells how many.]

[Teacher slowly rearranges.]
 If you count the blocks, how many do you think there will be?

K:2 There are 4 on the floor
 and 6 on the bed.
 How many are there?

K:3 Say the counting numbers. Also say the missing numbers.

9 10 11 _____ 14

55 56 57 58 59 _____

K:4 Are both of the bears correct?
 [Student uses manipulatives to answer.]

"There are 3 squares."

"These two triangles can be put together to make a new triangle."

K:5 [Teacher puts 3 red counters on table.]
 Put some blue counters here to make 10 counters in all. [Student completes this task.]
 How many counters did you add?
 [Student determines the answer.]
 Write the missing number: $3 + \underline{\quad} = 10$

K:6 Are there more shells or more sea stars ?

K:7 Hazel told a story. Write or say two numbers that will make Hazel's story true.

I have 10 pennies in my hands.

I have _____ pennies in my left hand.

I have _____ pennies in my right hand.

What other numbers will also make Hazel's story true?

K:8 [Teacher holds out 5 paper clips.]
How many do I have?
 [Student counts the paper clips.]
 [Teacher puts both hands behind back, then brings out 0, 1, 2, 3, 4, or 5 paper clips in one hand.]
How many are in this hand?
 [Student counts the paper clips.]
How many are in my other hand?

K:9 6 5

Point to the greater number. [Student points.] Tell me how you decided.

K:10 5 dogs were playing.
 Then 3 more dogs came.
 How many dogs are here now?

K:11 9 birds were in a tree.
 5 birds flew away.
 How many birds are there now?

K:12 Draw 16 circles. Use a [favorite color] marker for 10 of them. Use a pencil for the rest. [Student draws.]
 How many are [favorite color]? How many are in pencil?
 Write the missing number: $16 = 10 + \underline{\quad}$

K:13 Write or say the missing numbers.

$3 + 1 = \underline{\quad}$ $2 + 3 = \underline{\quad}$

$5 + 0 = \underline{\quad}$ $2 - 2 = \underline{\quad}$

$4 - 3 = \underline{\quad}$ $5 - 3 = \underline{\quad}$

K:14 Are there more land animals or more sea animals?

elephant	clownfish	gorilla
dolphin	mantis	snake
seahorse	octopus	shark

Math Milestones™ Task List — Kindergarten



Math Milestones™ was created by Jason Zimba, John W. Staley, Elizabeth Meier, Sandra Alberti, Harold Asturias, and Phil Daro.

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The 14 Math Milestones™ tasks for kindergarten have been carefully crafted to embody kindergarten mathematics on one page.











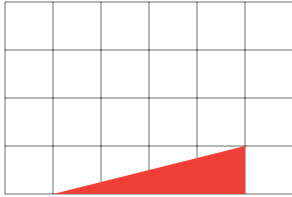


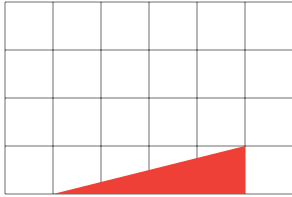




K:1 How Many Blocks?	☞	C P	K.CC.B.4
K:2 Two Groups of Books		C A	K.OA.A.2
K:3 Say the Numbers (Teens, Decades)		P	K.CC.A.1, 2
K:4 Bears Talk About Shapes	☞	C	K.G.A.2, K.G.B.4,6
K:5 Adding to Make a Group of Ten	☞	C	K.OA.A.4
K:6 More Shells or More Stars?		C P	K.CC.B.5
K:7 Ten Pennies, Two Hands	☞	C P	K.OA.A.3, 4
K:8 Five Behind the Back	☞	C	K.OA.A
K:9 Compare 6 and 5		C P	K.CC.B.4c, K.CC.C.7
K:10 Hello, Dogs		C A	K.OA.A.2
K:11 Bye-Bye, Birds		C A	K.OA.A.2
K:12 Make Ten and Some More		C	K.NBT.A.1
K:13 Fluency within Five		P	K.OA.A.5
K:14 Animals from Land and Sea	☞	A	K.MD.B.3

C = Task has a conceptual focus. P = Task has a procedural skill & fluency focus. A = Task has an application focus. ☞ = Task is designed for use with manipulatives or objects. Students might also use manipulatives to support their work on other tasks.

Standards for Mathematical Practice


MP.1 Make sense of problems and persevere in solving them.	K:5–8, K:12
MP.2 Reason abstractly and quantitatively.	K:1, K:5, K:8, K:9, K:12
MP.3 Construct viable arguments and critique the reasoning of others.	K:9
MP.4 Model with mathematics.	K:2, K:7, K:10, K:11, K:14
MP.5 Use appropriate tools strategically.	K:4, K:5
MP.6 Attend to precision.	K:3, K:6, K:13
MP.7 Look for and make use of structure.	K:5, K:12
MP.8 Express regularity in repeated reasoning.	K:3, K:7


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<p>1:1  10 lions were at the water hole. 4 lions joined them. Then 3 more lions joined. How many lions were at the water hole after that?</p>	<p>1:5 Tyler has 6 more grapes than Zoey. Zoey has 8 grapes. How many grapes does Tyler have? Equation model: _____ Answer: Tyler has _____ grapes.</p>	<p>1:11 Write the missing numbers. Tell how you got the answers.</p> $8 + 5 = \underline{\quad\quad}$ $8 - \underline{\quad\quad} = 2$ $13 - 4 = \underline{\quad\quad}$ $\underline{\quad\quad} - 5 = 4$ $7 + 4 = 10 + \underline{\quad\quad}$ $6 + \underline{\quad\quad} = 12$						
<p>1:2 True or false? $6 \text{ tens} + 4 \text{ ones} < 4 \text{ ones} + 7 \text{ tens}$ $7 \text{ ones} + 5 \text{ tens} = \underline{\quad\quad}$</p>	<p>1:6  I have 24 straws in a jar. I have 30 straws in a bag. How many straws do I have?</p>	<p>1:12 Grace tried to blow out 15 candles on her birthday cake. Grace blew out 9 candles. How many candles are still lit? Equation model: _____ Answer: _____ candles are still lit.</p>						
<p>1:3 Using a paper clip as a unit of length, draw a straight line 7 units long. </p>	<p>1:7 If the class works hard, our teacher will put a marble in a jar. We will have a party when there are 10 marbles in the jar. Today there are 6 marbles in the jar. How many marbles do we need for a party?</p>	<p>1:13  When I fell asleep last night, there were 8 icicles outside my window. When I woke up this morning, there were 3 icicles. How many icicles fell while I slept?</p>						
<p>1:4 Our class watched the weather for 21 days. On a chart, we marked each day as one of three kinds: sunny, cloudy, or rainy.</p> <table border="1" data-bbox="193 894 632 1068"> <tr> <td style="text-align: center;">Sunny </td> <td style="text-align: center;">Cloudy </td> <td style="text-align: center;">Rainy </td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </table> <p>(1) Count all the tally marks. Does your answer make sense? (2) How many days were not rainy? (3) Now create your own question by circling one word. Use the data to answer your question.</p> <p>How many more <u>cloudy/rainy</u> days were there than sunny days? <small>(circle one word)</small></p>	Sunny 	Cloudy 	Rainy 				<p>1:8 $90 - 40 = \underline{\quad\quad}$ $9 \text{ apples} - 4 \text{ apples} = \underline{\quad\quad} \text{ (number)} \text{ (unit)}$ $9 \text{ cups} - 4 \text{ cups} = \underline{\quad\quad} \text{ (number)} \text{ (unit)}$ $9 \text{ tens} - 4 \text{ tens} = \underline{\quad\quad} \text{ (number)} \text{ (unit)}$</p>	<p>1:14 One statement below is false. Find the false statement. How did you decide?</p> <p>[Student uses manipulatives]</p>  <p>A square can be created using triangles like this one.</p> <p>None of these are squares.   </p> <p>The shaded part of the circle is one fourth of the whole circle. </p>
Sunny 	Cloudy 	Rainy 						
<p>1:9 Write the missing numbers.</p> $4 + 5 = \underline{\quad\quad}$ $7 - 4 = \underline{\quad\quad}$ $10 - 8 = \underline{\quad\quad}$ $2 + 6 = \underline{\quad\quad}$ $4 + \underline{\quad\quad} = 10$ $7 + \underline{\quad\quad} = 10$	<p>1:10 Write the sum.</p> $\begin{array}{r} 37 \\ + 46 \\ \hline \end{array}$							

Math Milestones™ Task List — Grade 1

The 14 Math Milestones™ tasks for grade 1 have been carefully crafted to embody grade 1 mathematics on one page.

1:1 Lions at the Watering Hole	C A	1.OA.A.2, 1.OA,
1:2 Tens and Ones	C	1.NBT.B
1:3 Paper Clip Length Units	C A	1.MD.A
1:4 Analyzing Weather Data	A	1.MD.C.4
1:5 Tyler's Grapes	C A	1.OA.A.1, 1.OA
1:6 Two Groups of Straws	P A	1.NBT.C, 1.OA.A
1:7 Class Marble Jar	C A	1.OA.A.1, 1.OA
1:8 Subtracting Units	C	1.NBT.C.6
1:9 Fluency within Ten	P	1.OA.C.6
1:10 Two-Digit Addition	C P	1.NBT.C.4
1:11 Using Properties and Relationships	C P	1.OA.B
1:12 Blowing Out Candles	C A	1.OA.A.1, 1.OA
1:13 Falling Icicles	C A	1.OA.A.1, 1.OA
1:14 Shape True/False	 C	1.G.A

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Standards for Mathematical Practice

MP.1 Make sense of problems and persevere in solving them.	1:2, 1:4–7, 1:11–14
MP.2 Reason abstractly and quantitatively.	1:1, 1:3–5, 1:12
MP.3 Construct viable arguments and critique the reasoning of others.	1:11, 1:14
MP.4 Model with mathematics.	1:1, 1:4–7, 1:12, 1:13
MP.5 Use appropriate tools strategically.	1:3, 1:14
MP.6 Attend to precision.	1:2, 1:9–11
MP.7 Look for and make use of structure.	1:2, 1:8, 1:10, 1:11, 1:14
MP.8 Express regularity in repeated reasoning.	1:8

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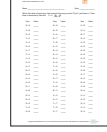



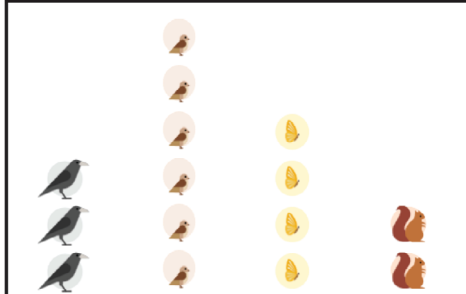
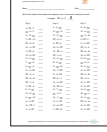
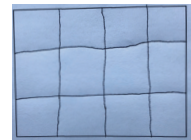


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<p>2:1 Avi made a paper chain. Then Avi added 29 more links to the paper chain. Now there are 52 links in the paper chain. How many links were in the paper chain before?</p> 	<p>2:5 Write the value of each sum. Use as much time as you need. If you "just knew it," then draw a check mark, like this: $2 + 2 = 4$ ✓</p>  <p>Click here for student handout 2:5</p>	<p>2:11 A grass snake is 28 inches long. A rat snake is 74 inches long. How much longer is the rat snake? Draw a diagram to illustrate your solution. Label the diagram with numbers.</p>																
<p>2:2 (1) True or false? (a) 2 hundreds + 3 ones > 5 tens + 9 ones (b) 9 tens + 2 hundreds + 4 ones < 924 (c) 456 < 5 hundreds</p> <p>(2) Write the number that makes each statement true. (a) 7 ones + 5 hundreds = _____ (b) 14 tens = _____ (c) $90 + 300 + 4 =$ _____</p>	<p>2:6 A rope is 32 feet long. The rope is cut into two pieces. One piece is 3 feet long. How long is the other piece? Equation model: _____ Answer: _____ feet</p>	<p>2:12 At recess there was a jump-rope contest.</p>  <p>I won because I jumped 25 more times than Catherine.</p> <p>Leslie: I jumped 81 times.</p> <p>How many times did Catherine jump? Equation model: _____ Answer: Catherine jumped _____ times.</p>																
<p>2:3 Write the sums and differences.</p> <table style="margin-left: 100px;"> <tr> <td>36</td> <td>72</td> <td>64</td> <td>82</td> </tr> <tr> <td>$+ 45$</td> <td>$- 17$</td> <td>$+ 27$</td> <td>$- 55$</td> </tr> </table>	36	72	64	82	$+ 45$	$- 17$	$+ 27$	$- 55$	<p>2:7 (1) Write the number that makes the statement true. 6 hundreds + 3 tens + 4 ones = 5 hundreds + _____ tens + 4 ones. (2) How do you know your statement is true? (3) Look for connections between your statement and this subtraction problem. What connections can you see?</p> <table style="margin-left: 500px;"> <tr> <td></td> <td style="text-align: right;">5 13</td> </tr> <tr> <td></td> <td style="text-align: right;">634</td> </tr> <tr> <td></td> <td style="text-align: right;">$- 482$</td> </tr> <tr> <td></td> <td style="text-align: right;">152</td> </tr> </table>		5 13		634		$- 482$		152	<p>2:13 Marlon and Malia went apple-picking.</p>  <p>I picked 12 apples.</p>  <p>You picked 13 fewer apples than I did.</p> <p>How many apples did Malia pick? Equation model: _____ Answer: Malia picked _____ apples.</p>
36	72	64	82															
$+ 45$	$- 17$	$+ 27$	$- 55$															
	5 13																	
	634																	
	$- 482$																	
	152																	
<p>2:4 Faith went to the park. The picture graph shows all of the animals Faith saw.</p> <table style="margin-left: 50px;"> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1 crow</td> <td>1 sparrow</td> <td>1 butterfly</td> <td>1 squirrel</td> </tr> </table> 					1 crow	1 sparrow	1 butterfly	1 squirrel	<p>2:8 Write the number that makes each equation true. Use as much time as you need.</p>  <p>Click here for student handout 2:8</p>	<p>2:14 Zariah got one answer wrong.</p> <p>(1) Which answer did Zariah get wrong? (2) Correct Zariah's wrong answer.</p> <p>(a) Show how the rectangle can be divided into 15 squares. </p> <p>(b) <u>2</u> halves make one whole.</p> <p>(c) Draw a triangle. All three sides of your triangle must have different lengths. </p>								
1 crow	1 sparrow	1 butterfly	1 squirrel															
<p>Faith said, "I saw fewer butterflies than birds." How many fewer butterflies did Faith see?</p>	<p>2:9 A farmer said, "Last night some deer came and ate 16 of my cabbages. Now I only have 38 cabbages." How many cabbages were there before the deer came? Equation model: _____ Answer: There were _____ cabbages.</p> 	<p>2:10 Check the subtraction by adding. $946 - 678 = 268$</p>																

Math Milestones™ Task List — Grade 2

The 14 Math Milestones™ tasks for grade 2 have been carefully crafted to embody grade 2 mathematics on one page.

2:1 Paper Chain	C A P	2.OA.A.1, 2.NBT.B.5
2:2 Place Value to Hundreds	C	2.NBT.A
2:3 Fluency within 100 (Add/Subtract)	P	2.NBT.B.5
2:4 Animals in the Park	A	2.MD.D.10
2:5 Sums of Single-Digit Numbers	P	2.OA.B.2
2:6 Cutting a Rope	C A	2.MD.B.5, 2.MD.B
2:7 Subtraction Regrouping	C P	2.NBT.B.7, 2.NBT.B
2:8 Fluency within the Addition Table	P	2.OA.B.2
2:9 Disappearing Cabbages	C A P	2.OA.A.1, 2.NBT.B.5
2:10 Three-Digit Addition/Subtraction	C P	2.NBT.B.7
2:11 Grass Snake vs. Rat Snake	C A P	2.MD.B, 2.NBT.B.5
2:12 Jump-Rope Contest	C A P	2.OA.A.1, 2.NBT.B.5
2:13 Apple-Picking	C A	2.OA.A.1
2:14 Correcting a Shape Answer	C	2.G.A

C = Task has a conceptual focus.

P = Task has a procedural skill & fluency focus.

A = Task has an application focus.

Standards for Mathematical Practice

MP.1 Make sense of problems and persevere in solving them.	2:1, 2:2, 2:5–9, 2:11–14
MP.2 Reason abstractly and quantitatively.	2:6, 2:7, 2:11–13
MP.3 Construct viable arguments and critique the reasoning of others.	2:7, 2:14
MP.4 Model with mathematics.	2:1, 2:4, 2:6, 2:9, 2:11–13
MP.5 Use appropriate tools strategically.	2:14
MP.6 Attend to precision.	2:2–5, 2:7, 2:8, 2:10
MP.7 Look for and make use of structure.	2:2, 2:3, 2:7, 2:10, 2:14
MP.8 Express regularity in repeated reasoning.	2:2

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3:1 There are five teams in the volleyball league. Every team has six players. How many players are in the volleyball league?
Equation model: _____
Answer: _____

3:4 Jasmine bought 45 corn seeds. She arranged the seeds into piles of 9 seeds each. How many piles were there?
Equation model: _____
Answer: _____



3:9 Our class painted pictures. The teacher will hang the pictures on 4 bulletin boards. The teacher will hang the same number of pictures on each board. How many pictures will be on each board? There are 32 pictures to hang.

3:2

The picture shows a dog sleeping on a rug. The rug design is a rectangular array of squares with a dot in each square.

Below are four expressions. One expression equals the total number of dots in the rug design. Which expression equals the total number of dots in the rug design? Tell how you decided.

- 12×14 , 11×14 , 12×15 , 11×15

3:5 Our class picked up litter on the playground. One student wrote tally marks to record the things we picked up.

Paper IIII IIII IIII IIII
Plastic IIII IIII IIII IIII IIII IIII IIII
Glass IIII IIII
Garbage IIII IIII IIII IIII IIII IIII

Show the data another way by drawing a scaled picture graph in which 1 picture stands for 10 things picked up.

3:6 Using what you know about fractions, decide which is greater, $\frac{1}{73}$ or $\frac{1}{41}$. Tell how you decided.

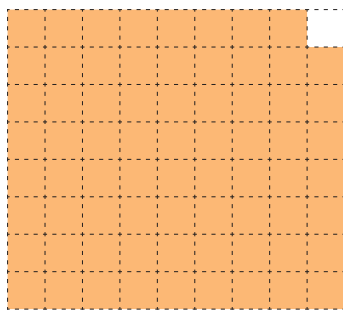
3:10 Alice forgot what 7×8 equals. Alice knows that $5 \times 8 = 40$ and $2 \times 8 = 16$.

- (1) Write a sentence to tell Alice how she can find the value of 7×8 by using the two facts she knows.
- (2) Draw a diagram that could help Alice understand why your method works.
- (3) Choose two numbers other than 7 and 8, and try using your method to multiply them. Will your method work for any pair of factors? Say why you think so.

3:11 Steven, Hawa, and 4 more friends went to the park. Steven brought 24 water balloons. Hawa brought 24 water balloons. Nobody else brought water balloons. The 6 friends shared all the water balloons equally. How many water balloons did each friend get?



3:3 (1) How much area is shaded?



1 unit of length

(2) Using a ruler, draw a rectangle with area 28 square centimeters. Write the length and width of your rectangle.

Length: _____ Width: _____

3:7 Here is a list of numbers. Where does each number belong on the number line?

$\frac{1}{2}$, $\frac{1}{4}$, 2, $\frac{5}{4}$, $\frac{2}{2}$, $\frac{3}{2}$, $\frac{6}{4}$, $\frac{2}{4}$, $\frac{3}{1}$

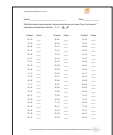
Draw a dot to show the location of each number. Label each dot. The first number in the list has been located for you.



3:8

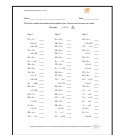
- (1) Name two attributes that are shared by triangles and squares.
- (2) Name a category of shapes that includes triangles and squares and also includes other shapes that have both of the attributes you named.

3:12 Write the value of each product. Use as much time as you need. If you "just knew it," then draw a check mark, like this:
 2×2 4✓



[Click here for student handout 3:12](#)

3:13 Write the number that makes each equation true. Use as much time as you need.



[Click here for student handout 3:13](#)

3:14 Write the sums and differences.

				Mentally
	With pencil and paper			800 - 300
351	264	625	831	240 + 540
+ 472	+ 438	- 261	- 444	365 - 165
				612 - 13

Math Milestones™ Task List — Grade 3

The 14 Math Milestones™ tasks for grade 3 have been carefully crafted to embody grade 3 mathematics on one page.

3:1 Volleyball Players	C A	3.OA.A.3, 3.OA.A
3:2 Hidden Rug Design	C	3.OA.A.1
3:3 Length and Area Quantities	C	3.MD.C
3:4 Corn Seeds	C A	3.OA.A.3, 3.OA.A
3:5 Playground Cleanup	A	3.MD.B.3
3:6 Unit Fraction Ideas	C	3.NF.A
3:7 Locating Numbers on a Number Line	C	3.NF.A
3:8 Shape Attributes and Categories	C	3.G.A.1
3:9 Bulletin Board Pictures	C A	3.OA.A.3, 3.OA.A
3:10 Alice's Multiplication Fact	C P	3.OA.B.5, 3.MD.C.7b
3:11 Water Balloons	A	3.OA.D.8
3:12 Products of Single-Digit Numbers	P	3.OA.C.7
3:13 Fluency within the Multiplication Table	P	3.OA.C.7, 3.OA.A.4, 3.OA.A, B, C
3:14 Fluency within 1000 (Add/Subtract)	P	3.NBT.A.2

C = Task has a conceptual focus.

P = Task has a procedural skill & fluency focus.

A = Task has an application focus.

Standards for Mathematical Practice

MP.1 Make sense of problems and persevere in solving them.	3:1, 3:4, 3:6–12
MP.2 Reason abstractly and quantitatively.	3:1–4, 3:5, 3:7, 3:9
MP.3 Construct viable arguments and critique the reasoning of others.	3:2, 3:6, 3:10
MP.4 Model with mathematics.	3:1, 3:4, 3:5, 3:9, 3:11
MP.5 Use appropriate tools strategically.	3:3, 3:7
MP.6 Attend to precision.	3:2, 3:3, 3:5, 3:7, 3:12–14
MP.7 Look for and make use of structure.	3:2, 3:3, 3:6–8, 3:10, 3:13, 3:14
MP.8 Express regularity in repeated reasoning.	3:6, 3:10

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4:1 A tablespoon holds 15 ml of olive oil, which is 3 times as much as a teaspoon holds. How many ml of olive oil does a teaspoon hold?
Equation model: _____
Answer: _____

4:2

(1) Find the three missing lengths and write them on the diagram. Compare answers with a classmate.

(2) What is the total area of the diagram?

(3) Look for connections between the diagram and the division problem. What connections can you see?

137
7 959
-700
259
-210
49
-49
0

4:3 Everyone in class measured the length of their pencil. Here are the measurements:

(1) How many pencils were measured?
(2) How much longer was the longest pencil than the shortest pencil?
(3) Could two of the pencils be laid end to end to make a total length of 1 foot?

4:4

(1) Compare $\frac{5}{9}$ to $\frac{4}{7}$. First do it by making equal denominators. Then do it by making equal numerators.

(2) Ariana said, " $\frac{300}{400}$ looks greater than $\frac{3}{4}$. How can they be the same size?" Write or say an explanation that could help Ariana understand why $\frac{300}{400}$ and $\frac{3}{4}$ are the same size.

(3) Which is closer to 1 on a number line, $\frac{4}{5}$ or $\frac{5}{4}$? Tell how you decided. Draw a number line and show $\frac{4}{5}$ and $\frac{5}{4}$ accurately on the number line.

4:5

(1a-f) Write the values of the products. Compare answers with a classmate.

(1g) Which answer is twice as much as the answer for (e)?

(1h) Which answer is six times as much as the answer for (a)?

(1i) Which two answers are equal?

(2) Zoe was reading her math book. She saw the equation $6 \times (4 + \frac{1}{2}) = 24 + 3$. She said, "I don't get it—where did the 24 and the 3 come from?" Write an explanation that could answer Zoe's question.

$4 \times \frac{1}{7} = \underline{\hspace{1cm}}$ (a)
 $6 \times \frac{4}{7} = \underline{\hspace{1cm}}$ (b)
 $86 \times \frac{1}{86} = \underline{\hspace{1cm}}$ (c)
 $6 \times \frac{8}{2} = \underline{\hspace{1cm}}$ (d)
 $9 \times \frac{1}{9} = \underline{\hspace{1cm}}$ (e)
 $9 \times \frac{2}{9} = \underline{\hspace{1cm}}$ (f)

4:6 Grandpa took a jar of pennies to the bank. He said, "I'd like nickels for this, please." The bank teller poured the pennies into a counting machine. "Eighty-seven dollars and forty-two cents," said the teller. **(1)** How many nickels did Grandpa get? **(2)** Check your answer with an estimate.

4:7 Write the values of the expressions. Read each completed equation aloud.

3 fifths + 2 fifths = _____

$\frac{1}{10} + \frac{3}{100} = \underline{\hspace{1cm}}$ (fraction)
 = _____ (decimal)

$\frac{6}{25} + \frac{6}{25} = \underline{\hspace{1cm}}$
 $\frac{1}{8} + \frac{5}{8} - \frac{3}{8} = \underline{\hspace{1cm}}$

4:8 L is a line, R is a ray, and T is a triangle. True or false:

(1) Line L is a line of symmetry for triangle T .

(2) Line L intersects ray R .

(3) Triangle T has two angles measuring less than 90 degrees.

4:9 In gym it was fitness day. Students ran laps around the gym.

I ran $1\frac{2}{3}$ more laps than Catherine.

I ran $6\frac{1}{3}$ laps.

How many laps did Catherine run?

4:10 Write the values of the products and quotients. Check the quotients by multiplying.

Mentally	40 × 20	With pencil and paper
	30 × 11	6,132 48
	12 × 60	5 × 19 × 6 × 39 7 8,722
	480 ÷ 8	

4:11 A cook in the school kitchen uses 6 oz of cheese to make a pizza. The kitchen has 45 lb of cheese. How many pizzas will that make?

4:12 The pickup truck can carry $1\frac{3}{5}$ tons. The super hauler truck can carry 300 times as much. How many tons can the super hauler truck carry?

4:13

(1) A red rectangle has length $L = 12$ in and width $W = 6$ in. Use the formula $A = L \times W$ to find the area of the red rectangle.

(2) A blue rectangle has length 1 ft and width $\frac{1}{2}$ ft. Draw a picture to show that two copies of the blue rectangle make one square foot. Based on your picture, what is the area of the blue rectangle?

(3) Do the red rectangle and the blue rectangle have equal areas? Tell how you decided.

4:14 $540,909 + 87,808 - 5,864 + 2,556 = ?$

Math Milestones™ Task List — Grade 4

The 14 Math Milestones™ tasks for grade 4 have been carefully crafted to embody grade 4 mathematics on one page.

4:1 A Tablespoon of Oil	C A	4.OA.A.2
4:2 Multi-Digit Division Concepts	C	4.NBT.B.6
4:3 Pencil Data	A	4.MD.B.4
4:4 Comparing Fractions with Equivalence	C	4.NF.A
4:5 Fraction Products and Properties	C	4.NF.B.4a, 4b
4:6 Jar of Pennies	A P	4.OA.A.3
4:7 Fraction Sums and Differences	C P	4.NF.B.3a–c, 4.NF.C.5, 6
4:8 Shapes with Given Positions	C	4.MD.C, 4.G.A
4:9 Fitness Day	C A	4.NF.B.3d
4:10 Calculating Products and Quotients	P	4.NBT.B
4:11 School Kitchen	A	4.MD.A.2, 4.NBT.B.5
4:12 Super Hauler Truck	C A	4.NF.B.4c, 4.OA.A.2
4:13 Area Units	C	4.MD.A.3
4:14 Fluency with Multi-Digit Sums and Differences	P	4.NBT.B.4

C = Task has a conceptual focus.

P = Task has a procedural skill & fluency focus.

A = Task has an application focus.

Standards for Mathematical Practice

MP.1 Make sense of problems and persevere in solving them.	4:6, 4:11
MP.2 Reason abstractly and quantitatively.	4:1, 4:2, 4:3, 4:6
MP.3 Construct viable arguments and critique the reasoning of others.	4:4, 4:5, 4:13
MP.4 Model with mathematics.	4:1, 4:3, 4:6, 4:9, 4:11, 4:12
MP.5 Use appropriate tools strategically.	4:5(2), 4:8
MP.6 Attend to precision.	4:4, 4:8, 4:10, 4:13, 4:14
MP.7 Look for and make use of structure.	4:2, 4:5, 4:7, 4:8, 4:10, 4:14
MP.8 Express regularity in repeated reasoning.	4:4, 4:5, 4:7

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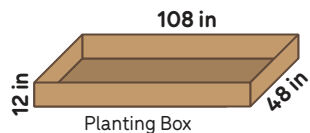
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5:1 A school needed 240 *four-packs* of juice boxes for a field trip. However, the school accidentally bought 240 *six-packs* of juice boxes. How many extra juice boxes did the school buy?

5:2 After a hurricane, the 12 residents of a nursing home didn't have any clean water to drink. Their neighbors donated 40 gallons of bottled water, which would provide ___ gallons for each resident.



5:3 A neighborhood garden will have 6 wooden planting boxes. Every box will have the same shape (see diagram). Soil can be bought by the truckload; a truckload is 54 ft³ of soil. How many truckloads of soil will fill all of the boxes?



5:4 (1) Circle T for true or F for false.

(a) 9 thousandths + 5 hundredths > 3 hundredths + 2 tenths T F

(b) 92 hundredths + 4 thousandths > 0.924 T F

(c) 0.456 < 0.5 T F

(2) Write each number in the requested form.

(a) 7 thousandths + 5 tenths = ____ (decimal)

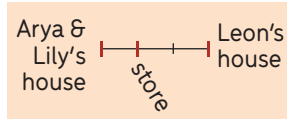
(b) 0.1 tenths = ____ (decimal)

(c) $\frac{2}{100} + \frac{5}{1000} =$ ____ (decimal)
= ____ (fraction in lowest terms)

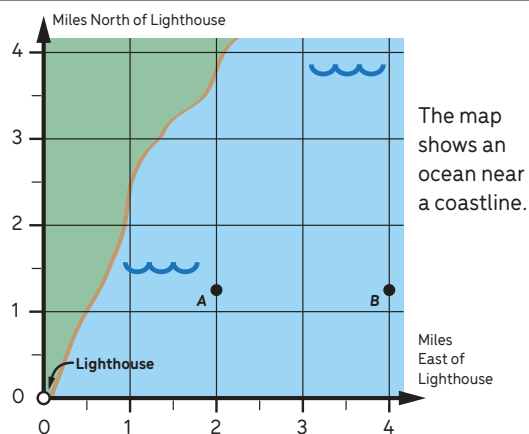
5:5 Write the requested values.

$4087 \times 53 = ?$	$\frac{1}{10} \div 10 = ?$	$0.4 \times 0.9 = ?$
$246 \times 914 = ?$	$\frac{7}{8} \times \frac{5}{3} = ?$	$0.75 \div 0.01 = ?$
$9744 \div 12 = ?$	$8 \times ? = 73$	$0.63 \div 0.3 = ?$
$1461 \div 6 = ?$	$3 \div \frac{1}{8} = ?$	$0.86 + 0.4 = ?$
$4 - (8 - 4) = ?$	$\frac{1}{2} + \frac{1}{3} - \frac{1}{5} = ?$	$0.72 - 0.17 = ?$
	$\frac{1}{3} \div (6 \times 5) = ?$	$0.02 + 0.2 = ?$
		$0.8 - 0.55 = ?$
		$637 - 1.31 = ?$

5:6 (1) Arya and Lily's house is $\frac{1}{5}$ mile from the store. (a) Arya ran $\frac{1}{3}$ of the way from her house to the store. How far, in miles, did Arya run? (b) Lily ran $\frac{2}{3}$ of the way from her house to the store. How far, in miles, did Lily run? (2) It is $\frac{2}{5}$ mile from Leon's house to the store. (a) Leon ran $\frac{1}{3}$ of the way from his house to the store. How far, in miles, did Leon run? (b) Compare how far Leon and Lily ran; what do you notice, and why is it true?



5:7 The map shows an ocean near a coastline. Shipwrecks are at locations A $(2, 1\frac{1}{4})$ and B $(4, 1\frac{1}{4})$. Shipwrecks are also at locations C $(4, 3\frac{1}{2})$ and D $(2, 3\frac{1}{2})$. (1) Mark C and D on the map and shade rectangle ABCD. (2) Some believe there is sunken treasure in the region you shaded. How large is that region in mi²?



5:9 On Saturday there was a walkathon.

Catherine: I walked $\frac{1}{3}$ mile farther than Leslie.

I walked $1\frac{1}{4}$ mile.

How many miles did Leslie walk?

5:10 (1) Solve: $\frac{1}{3} = 0.1 + ?$

(2) Is there a number greater than $\frac{1}{5}$ and less than $\frac{1}{4}$? If you think so, find such a number. If you think there is no such number, explain why.

(3) Show one of the above problems and its solution on a number line.

5:11 Juliet said, "I'm thinking of a rectangle. Its area is 1 square unit. Its perimeter is more than 1 million units."

(1) Is Juliet thinking of something possible or impossible? Use math to decide for sure.

(2) Explain your reasoning to your classmates. Revise your explanation based on suggestions from your classmates.

5:12 Before it rained, the teacher went outside and placed identical baking pans on the ground. After it rained, the teacher brought the pans inside, and students measured how much water was collected in each pan.

Water Collected (liters)

If all the water collected were shared equally among the pans, how much water would be in each pan?

5:13 In a snack shop there is a frozen yogurt machine. When there is 3 l of frozen yogurt in the machine, the machine is $\frac{1}{3}$ full. How much frozen yogurt is in the machine when it is $\frac{1}{4}$ full?

5:14 Brandon was reading his math book. He saw the equation $\frac{3}{4} \times (4 + \frac{1}{2}) = 3 + \frac{3}{8}$. He said, "I don't get it—where did the 3 and the $\frac{3}{8}$ come from?" Write an explanation that could answer Brandon's question.

Math Milestones™ Task List — Grade 5

The 14 Math Milestones™ tasks for grade 5 have been carefully crafted to embody grade 5 mathematics on one page.

5:1 Juice Box Mixup	C A	5.OA.A.2, 5.NBT.B.5
5:2 Water Relief	C A	5.NF.B.3
5:3 Neighborhood Garden	A	5.MD.A, B
5:4 Place Value to Thousandths	C	5.NBT.A
5:5 Calculating	P	5.NBT.B, 5.NF.A, B
5:6 Corner Store	C A	5.NF.B.4a, 5.NF.B.6
5:7 Shipwrecks	C A	5.NF.B.4b, 5.G.A
5:8 Alana's New Shape Category	C	5.G.B
5:9 Walkathon	A P	5.NF.A.1, 2
5:10 Number System, Number Line	C	5.NF.A.1
5:11 Juliet's Rectangle	C	5.NF.B
5:12 Rain Measurements	A	5.MD.B
5:13 Frozen Yogurt Machine	A	5.NF.B.6, 7
5:14 Brandon's Equation	C	5.NF.B.4a

C = Task has a conceptual focus.

P = Task has a procedural skill & fluency focus.

A = Task has an application focus.

Standards for Mathematical Practice

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MP.2 Reason abstractly and quantitatively.	5:2, 5:6, 5:7, 5:9, 5:11–13
MP.3 Construct viable arguments and critique the reasoning of others.	5:6, 5:8, 5:10, 5:11, 5:14
MP.4 Model with mathematics.	5:1–3, 5:6, 5:7, 5:9, 5:12, 5:13
MP.5 Use appropriate tools strategically.	5:10, 5:13, 5:14
MP.6 Attend to precision.	5:4, 5:5, 5:8, 5:11
MP.7 Look for and make use of structure.	5:1, 5:4–7, 5:14
MP.8 Express regularity in repeated reasoning.	5:6, 5:8, 5:11

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