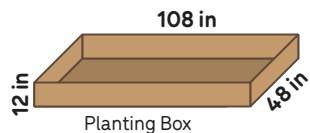


5:1 A school needed 240 four-packs of juice boxes for a field trip. However, the school accidentally bought 240 six-packs of juice boxes. How many extra juice boxes did the school buy?

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.



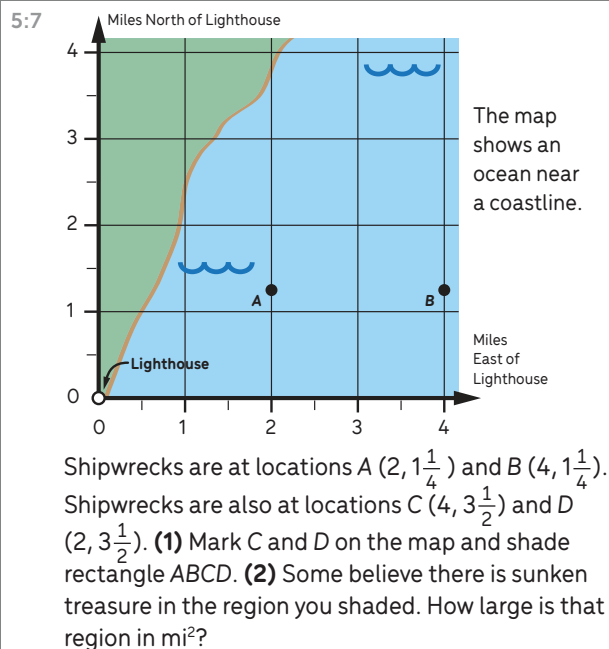
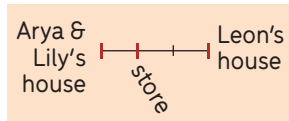
5:3 A neighborhood garden will have 6 wooden planting boxes. Every box will have the same shape (see diagram). Soil can be bought by the truckload; a truckload is 54 ft³ of soil. How many truckloads of soil will fill all of the boxes?



- 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?



5:8 A scalene triangle is a triangle in which the sides all have different lengths. Thinking about this, Alana decided there should also be a name for quadrilaterals in which the sides all have different lengths. She said, "I'll name them after myself." She defined an *alana-gon* to be a quadrilateral in which the four sides all have different lengths. (1) Draw an example of an alana-gon. (2) True or false: (a) All squares are alana-gons. (b) No trapezoids are alana-gons.

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.

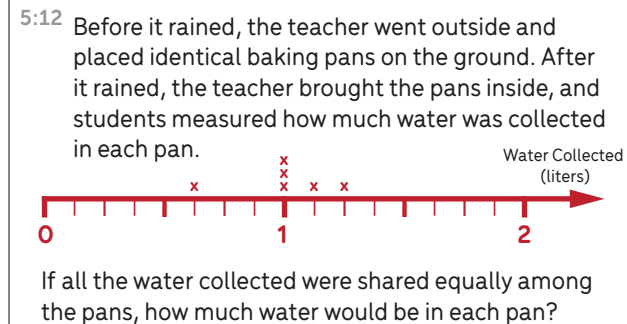
How many miles did Leslie walk?

- 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.



5:13 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

MP.1 Make sense of problems and persevere in solving them.	5:3, 5:6, 5:10, 5:11, 5:13
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

Standards codes refer to www.corestandards.org. One purpose of the codes is that they may allow a task to shed light on the Standards cited for that task. Conversely, reading the cited Standards may suggest opportunities to extend a task or draw out its implications. Finally, Standards codes may also assist with locating relevant sections in curriculum materials, including materials aligned to comparable standards.



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

Math Milestones™ tasks are not designed for summative assessment. Used formatively, the tasks can reveal and promote student thinking. Student work on tasks could be collected in student portfolios.

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