Lesson 1 Practice Problems

Problem 1

In a fruit basket there are 9 bananas, 4 apples, and 3 plums.

a. The ratio of bananas to apples is _____ : _____.

b. The ratio of plums to apples is _____ to _____.

c. For every _____ apples, there are _____ plums.

d. For every 3 bananas there is one _____.

Possible Solutions

a. 9, 4

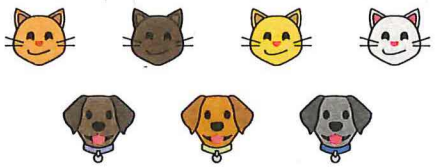
b. 3, 4

c. 4, 3

d. plum

Problem 2

Complete the sentences to describe this picture.



a. The ratio of dogs to cats is _____.

b. For every _____ dogs, there are _____ cats.

Possible Solutions

a. 3 to 4

b. 3, 4

Find the volume and surface area of each prism.

a. Prism A: 3 cm by 3 cm by 3 cm

b. Prism B: 5 cm by 5 cm by 1 cm

c. Compare the volumes of the prisms and then their surface areas. Does the prism with the greater volume also have the greater surface area?

Possible Solutions

a. Volume: 27 cubic inches, surface area: 54 square inches

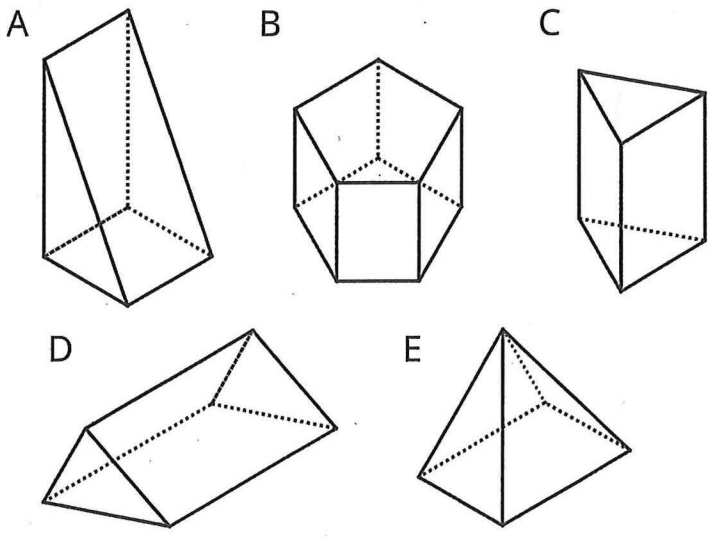
b. Volume: 25 cubic inches, surface area: 70 square inches

c. Prism A has a greater volume, but Prism B has a greater surface area.

Problem 6

From Grade 6, Unit 1, Lesson 13

Which figure is a triangular prism? Select **all** that apply.

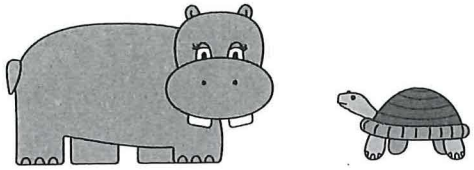


Possible Solutions

A, C, D

Problem 3

Write two different sentences that use ratios to describe the number of eyes and legs in this picture.



Possible Solutions

Answers vary. Sample responses:

- The ratio of legs to eyes is 8 to 4.
- The ratio of eyes to legs is $4 : 8$.
- There are 2 legs for every eye.
- There are 4 legs for every 2 eyes.

Problem 4

From Grade 6, Unit 1, Lesson 17

Choose an appropriate unit of measurement for each quantity.

a. area of a rectangle
b. volume of a prism
c. side of a square
d. area of a square
e. volume of a cube

- cm
- cm^3
- cm^2

Possible Solutions

a. cm^2
b. cm^3
c. cm
d. cm^2
e. cm^3

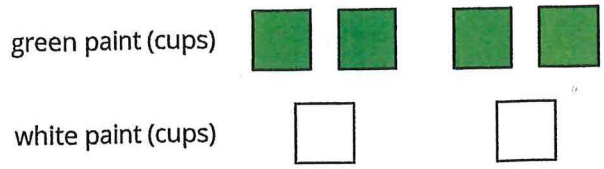
Problem 5

From Grade 6, Unit 1, Lesson 16

Lesson 2 Practice Problems

Problem 1

Here is a diagram that describes the cups of green and white paint in a mixture.



Select **all** the statements that accurately describe this diagram.

A. The ratio of cups of white paint to cups of green paint is 2 to 4.

B. For every cup of green paint, there are two cups of white paint.

C. The ratio of cups of green paint to cups of white paint is $4 : 2$.

D. For every cup of white paint, there are two cups of green paint.

E. The ratio of cups of green paint to cups of white paint is $2 : 4$.

Possible Solutions

A,C,D

Problem 2

To make a snack mix, combine 2 cups of raisins with 4 cups of pretzels and 6 cups of almonds.

a. Create a diagram to represent the quantities of each ingredient in this recipe.

b. Use your diagram to complete each sentence.

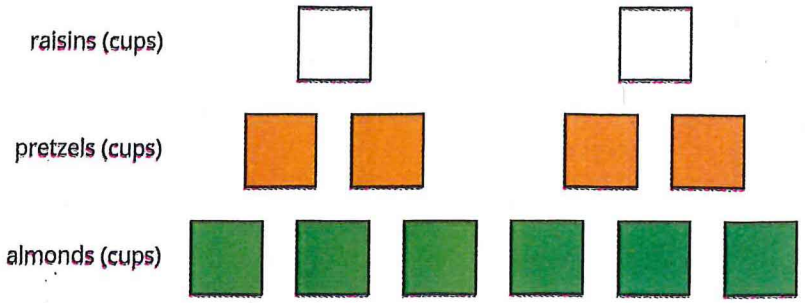
i. The ratio of _____ to _____ to _____ is _____ : _____ : _____.

ii. There are _____ cups of pretzels for every cup of raisins.

iii. There are _____ cups of almonds for every cup of raisins.

Possible Solutions

a. Answers vary. Sample response:



b. Statements:

i. Answers vary. Sample response: cups of raisins, cups of pretzels, cups of almonds, 2, 4, 6

ii. 2

iii. 3

Problem 3

From Grade 6, Unit 1, Lesson 17

a. A square is 3 inches by 3 inches. What is its area?

b. A square has a side length of 5 feet. What is its area?

c. The area of a square is 36 square centimeters. What is the length of each side of the square?

Possible Solutions

a. 9 square inches ($3 \cdot 3 = 9$)

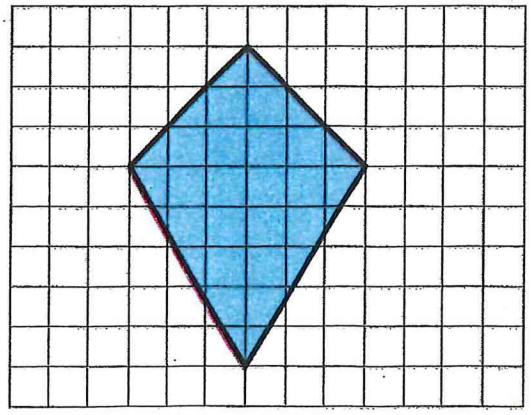
b. 25 square feet ($5 \cdot 5 = 25$)

c. 6 centimeters ($6 \cdot 6 = 36$)

Problem 4

From Grade 6, Unit 1, Lesson 11

Find the area of this quadrilateral. Explain or show your strategy.



Possible Solutions

24 square units. Possible strategy: Decompose the quadrilateral into two triangles with a horizontal cut. The top triangle has a base of 6 units and a height of 3 units. Its area is 9 square units, as $(6 \cdot 3) \div 2 = 9$. The bottom triangle has a base of 6 units and a height of 5 units. Its area is 15 square units, as $(6 \cdot 5) \div 2 = 15$. $9 + 15 = 24$. The area of the quadrilateral is then 24 square units.

Problem 5

From Grade 6, Unit 2, Lesson 1

Complete each equation with a number that makes it true.

a. $\frac{1}{8} \cdot 8 =$ _____

b. $\frac{3}{8} \cdot 8 =$ _____

c. $\frac{1}{8} \cdot 7 =$ _____

d. $\frac{3}{8} \cdot 7 =$ _____

Possible Solutions

a. 1 (or equivalent)

b. 3 (or equivalent)

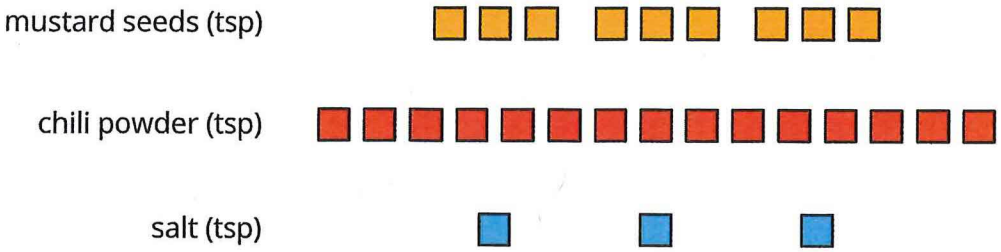
c. $\frac{7}{8}$ (or equivalent)

d. $\frac{21}{8}$ (or equivalent, $2\frac{5}{8}$ for example)

Lesson 3 Practice Problems

Problem 1

A recipe for 1 batch of spice mix says, "Combine 3 teaspoons of mustard seeds, 5 teaspoons of chili powder, and 1 teaspoon of salt." How many batches are represented by the diagram? Explain or show your reasoning.



Possible Solutions

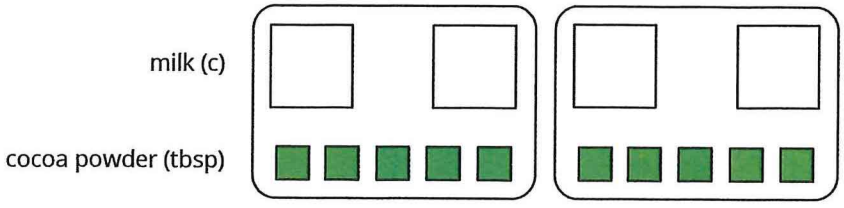
The diagram represents 3 batches of spice mix. It shows 3 times the amount of each ingredient in the recipe: 9 teaspoons of mustard ($3 \cdot 3$), 15 teaspoons of chili powder ($3 \cdot 5$), and 3 teaspoons of salt ($3 \cdot 1$).

Problem 2

Priya makes chocolate milk by mixing 2 cups of milk and 5 tablespoons of cocoa powder. Draw a diagram that clearly represents two batches of her chocolate milk.

Possible Solutions

Answers vary. Sample response:



Problem 3

In a recipe for fizzy grape juice, the ratio of cups of sparkling water to cups of grape juice concentrate is 3 to 1.

a. Find two more ratios of cups of sparkling water to cups of juice concentrate that would make a mixture that tastes the same as this recipe.

b. Describe another mixture of sparkling water and grape juice that would taste different than this recipe.

Possible Solutions

Answers vary. Sample responses:

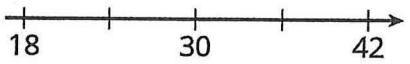
a. 6 to 2, 9 to 3

b. 6 to 3

Problem 4

From Grade 6, Unit 2, Lesson 1

Write the missing number under each tick mark on the number line.



Possible Solutions

24, 36 (intervals of 6)

Problem 5

From Grade 6, Unit 2, Lesson 1

At the kennel, there are 6 dogs for every 5 cats.

a. The ratio of dogs to cats is _____ to _____.

b. The ratio of cats to dogs is _____ to _____.

c. For every _____ dogs there are _____ cats.

d. The ratio of cats to dogs is _____ : _____.

Possible Solutions

a. 6 to 5

b. 5 to 6

c. 6, 5

d. $5 : 6$

Problem 6

From Grade 6, Unit 1, Lesson 17

Elena has 80 unit cubes. What is the volume of the largest cube she can build with them?

Possible Solutions

64 cubic units (from a 4 by 4 by 4 cube)

Problem 7

From Grade 6, Unit 2, Lesson 1

Fill in the blanks to make each equation true.

a. $3 \cdot \frac{1}{3} =$ _____

b. $10 \cdot \frac{1}{10} =$ _____

c. $19 \cdot \frac{1}{19} =$ _____

d. $a \cdot \frac{1}{a} =$ _____
(As long as a does not equal 0.)

e. $5 \cdot$ _____ $= 1$

f. $17 \cdot$ _____ $= 1$

g. $b \cdot$ _____ $= 1$

Possible Solutions

a. 1 (or equivalent)

b. 1 (or equivalent)

c. 1 (or equivalent)

d. 1 (or equivalent)

e. $\frac{1}{5}$ (or equivalent)

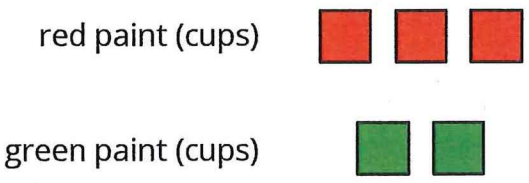
f. $\frac{1}{17}$ (or equivalent)

g. $\frac{1}{b}$ (or equivalent)

Lesson 4 Practice Problems

Problem 1

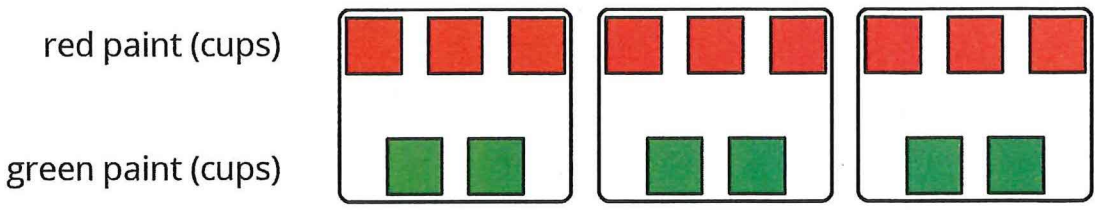
Here is a diagram showing a mixture of red paint and green paint needed for 1 batch of a particular shade of brown.



Add to the diagram so that it shows 3 batches of the same shade of brown paint.

Possible Solutions

Answers vary. Sample response:



Problem 2

Diego makes green paint by mixing 10 tablespoons of yellow paint and 2 tablespoons of blue paint. Which of these mixtures produce the same shade of green paint as Diego's mixture? Select **all** that apply.

A. For every 5 tablespoons of blue paint, mix in 1 tablespoon of yellow paint.

B. Mix tablespoons of blue paint and yellow paint in the ratio $1 : 5$.

C. Mix tablespoons of yellow paint and blue paint in the ratio 15 to 3.

D. Mix 11 tablespoons of yellow paint and 3 tablespoons of blue paint.

Possible Solutions

B and C

Problem 3

To make 1 batch of sky blue paint, Clare mixes 2 cups of blue paint with 1 gallon of white paint.

a. Explain how Clare can make 2 batches of sky blue paint.

b. Explain how to make a mixture that is a darker shade of blue than the sky blue.

c. Explain how to make a mixture that is a lighter shade of blue than the sky blue.

Possible Solutions

a. Mix 4 cups of blue paint and 2 gallons of white paint.

b. Answers vary. Sample response: 3 cups of blue paint and 1 gallon of white paint. Mixing the same amount of white paint with *more* blue paint will make a darker shade of blue.

c. Answers vary. Sample response: 2 cups of blue paint and 2 gallons of white paint. Mixing the same amount of blue paint with *more* white paint will make a lighter shade of blue.

Problem 4

From Grade 6, Unit 2, Lesson 2

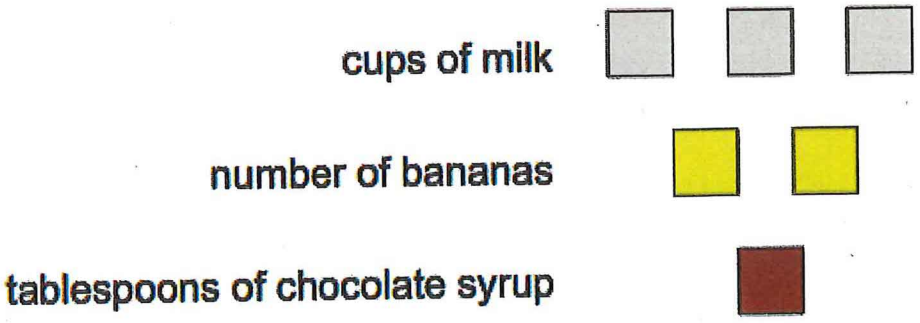
A smoothie recipe calls for 3 cups of milk, 2 frozen bananas and 1 tablespoon of chocolate syrup.

a. Create a diagram to represent the quantities of each ingredient in the recipe.

b. Write 3 different sentences that use a ratio to describe the recipe.

Possible Solutions

a. Answers vary. Sample response:

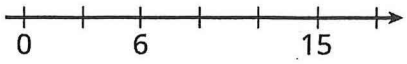


2. Answers vary. Sample response: The ratio of cups of milk to number of bananas is $3:2$, the ratio of bananas to tablespoons of chocolate syrup is 2 to 1, for every tablespoon of chocolate syrup, there are 3 cups of milk.

Problem 5

From Grade 6, Unit 2, Lesson 1

Write the missing number under each tick mark on the number line.



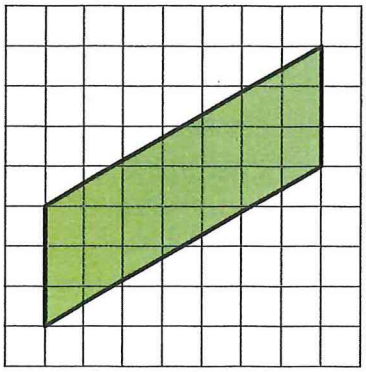
Possible Solutions

0, 3, 6, 9, 12, 15, 18 (intervals of 3)

Problem 6

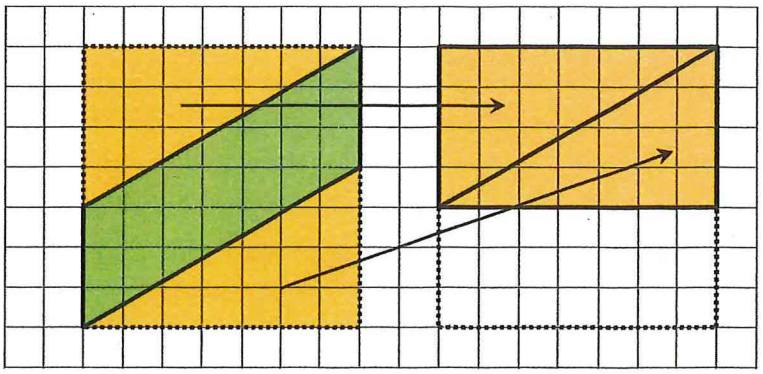
From Grade 6, Unit 1, Lesson 4

Find the area of the parallelogram. Show your reasoning.



Possible Solutions

21 square units. Reasoning varies. Sample reasoning: Draw a square around the parallelogram; its area is 49 square units, because $7 \cdot 7 = 49$. Rearrange the triangles above and below the parallelogram to form a rectangle; the area of this rectangle is 28 square units, because $4 \cdot 7 = 28$. Subtracting the area of the triangles from the area of the square, we have 21 square units. $49 - 28 = 21$.



Problem 7

From Grade 6, Unit 2, Lesson 1

Lesson 4 Practice Problems

Complete each equation with a number that makes it true.

a. $11 \cdot \frac{1}{4} =$ _____

b. $7 \cdot \frac{1}{4} =$ _____

c. $13 \cdot \frac{1}{27} =$ _____

d. $13 \cdot \frac{1}{99} =$ _____

e. $x \cdot \frac{1}{y} =$ _____
(As long as y does not equal 0.)

Possible Solutions

a. $\frac{11}{4}$ (or equivalent)

b. $\frac{7}{4}$ (or equivalent)

c. $\frac{13}{27}$ (or equivalent)

d. $\frac{13}{99}$ (or equivalent)

e. $\frac{x}{y}$ (or equivalent)

Lesson 5 Practice Problems

Problem 1

Each of these is a pair of equivalent ratios. For each pair, explain why they are equivalent ratios or draw a diagram that shows why they are equivalent ratios.

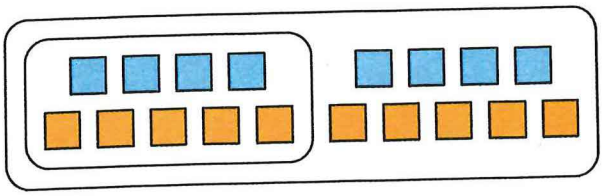
a. $4 : 5$ and $8 : 10$

b. $18 : 3$ and $6 : 1$

c. $2 : 7$ and $10{,}000 : 35{,}000$

Possible Solutions

Answers vary. Sample response:



a. The diagram shows that 8 to 10 is the same as 2 groups of 4 to 5 so these are equivalent ratios.

b. $18 \cdot \frac{1}{3} = 6$ and $3 \cdot \frac{1}{3} = 1$.

c. $2 \cdot (5{,}000) = 10{,}000$ and $7 \cdot (5{,}000) = 35{,}000$.

Problem 2

Explain why $6 : 4$ and $18 : 8$ are not equivalent ratios.

Possible Solutions

Answers vary. Sample response: $6 : 4$ is not equivalent to $18 : 8$ because 18 is $6 \cdot 3$, but 8 is not $4 \cdot 3$.

Problem 3

Are the ratios $3 : 6$ and $6 : 3$ equivalent? Why or why not?

Possible Solutions

Answers vary. Sample response: No, the ratio $3 : 6$ is not equivalent to $6 : 3$. The ratio $3 : 6$ represents 3 of one type of object for every 6 of another type of object while the ratio $6 : 3$ represents 6 of the first type of object for every 3 of the second type of object.

Problem 4

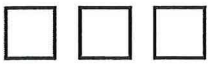
From Grade 6, Unit 2, Lesson 4

This diagram represents 3 batches of light yellow paint. Draw a diagram that represents 1 batch of the same shade of light yellow paint.

white paint (cups) 

yellow paint (cups) 

Possible Solutions

white paint (cups) 

yellow paint (cups) 

Problem 5

From Grade 6, Unit 2, Lesson 1

In the fruit bowl there are 6 bananas, 4 apples, and 3 oranges.

a. For every 4 _____, there are 3 _____.

b. The ratio of _____ to _____ is $6 : 3$.

c. The ratio of _____ to _____ is 4 to 6.

d. For every 1 orange, there are _____ bananas.

Possible Solutions

a. apples, oranges

b. bananas, oranges

c. apples, bananas

d. 2

Problem 6

From Grade 6, Unit 2, Lesson 1

Write fractions for points A and B on the number line.

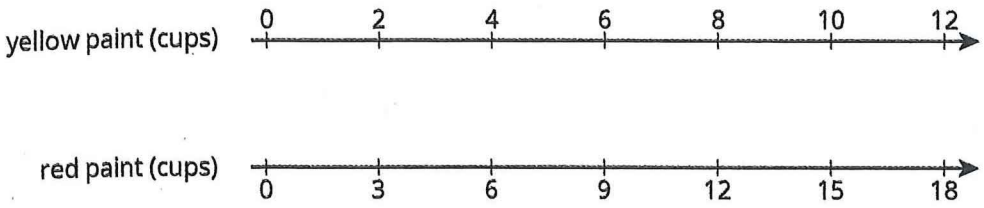
Possible Solutions

$A = \frac{2}{6}$ or $\frac{1}{3}$ $B = \frac{5}{6}$

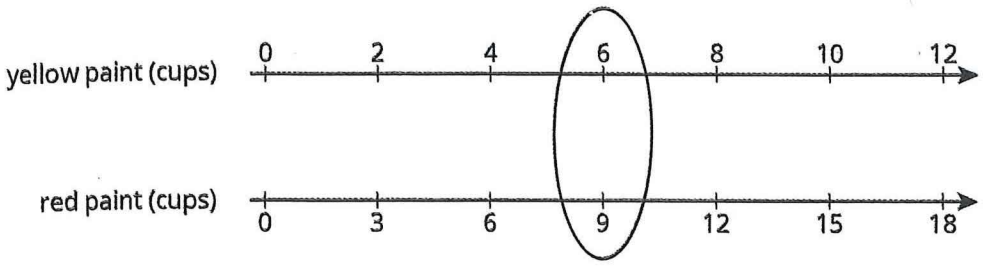
Lesson 6 Practice Problems

Problem 1

A particular shade of orange paint has 2 cups of yellow paint for every 3 cups of red paint. On the double number line, circle the numbers of cups of yellow and red paint needed for 3 batches of orange paint.

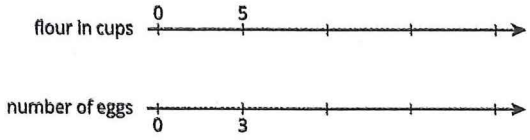


Possible Solutions



Problem 2

This double number line diagram shows the amount of flour and eggs needed for 1 batch of cookies.



a. Complete the diagram to show the amount of flour and eggs needed for 2, 3, and 4 batches of cookies.

b. What is the ratio of cups of flour to eggs?

c. How much flour and how many eggs are used in 4 batches of cookies?

d. How much flour is used with 6 eggs?

e. How many eggs are used with 15 cups of flour?

Possible Solutions

a. Flour in cups: 5, 10, 15, 20. Number of eggs: 3, 6, 9, 12.

b. $5 : 3$ or equivalent

c. 20 cups of flour and 12 eggs

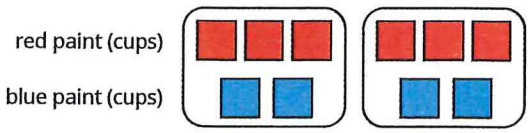
d. 10 cups

e. 9 eggs

Problem 3

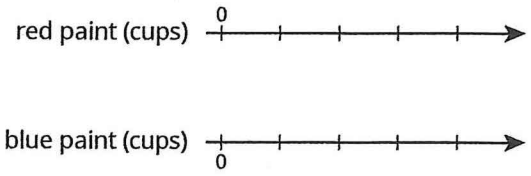
Here is a representation showing the amount of red and blue paint that make 2 batches of purple paint.

a. On the double number line, label the tick marks to represent amounts of red and blue paint used to make batches of this shade of purple paint.



b. How many batches are made with 12 cups of red paint?

c. How many batches are made with 6 cups of blue paint?



Possible Solutions

a. Red (cups): 0, 3, 6, 9, 12; Blue (cups): 0, 2, 4, 6, 8

b. 4 batches

c. 3 batches

Problem 4

From Grade 6, Unit 2, Lesson 1

Diego estimates that there will need to be 3 pizzas for every 7 kids at his party. Select **all** the statements that express this ratio.

A. The ratio of kids to pizzas is $7 : 3$.

B. The ratio of pizzas to kids is 3 to 7.

C. The ratio of kids to pizzas is $3 : 7$.

D. The ratio of pizzas to kids is 7 to 3.

E. For every 7 kids there need to be 3 pizzas.

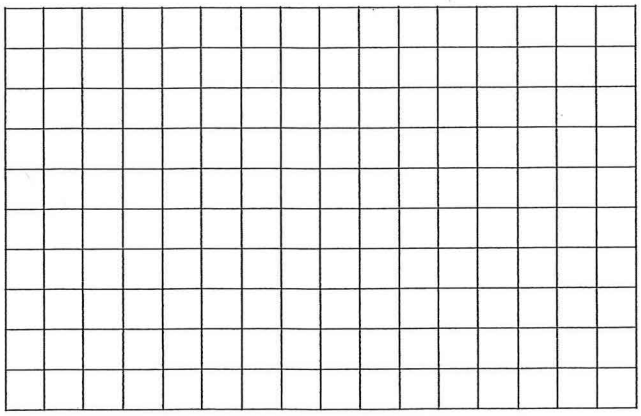
Possible Solutions

A, B, E

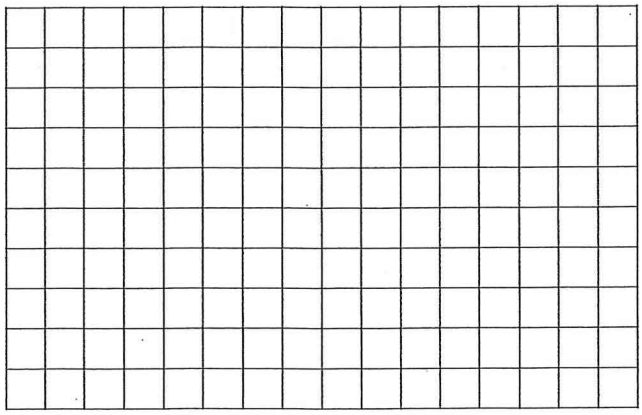
Problem 5

From Grade 6, Unit 1, Lesson 6

a. Draw a parallelogram that is not a rectangle that has an area of 24 square units. Explain or show how you know the area is 24 square units.



b. Draw a triangle that has an area of 24 square units. Explain or show how you know the area is 24 square units.



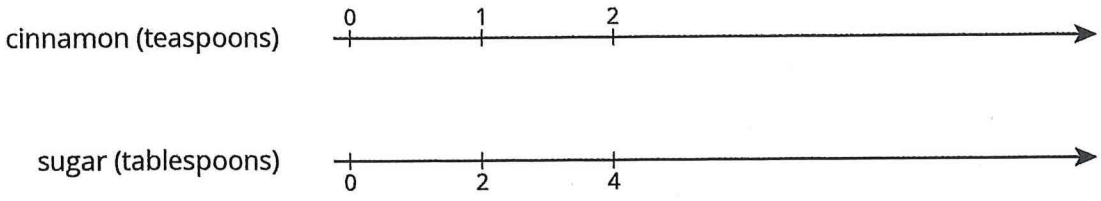
Possible Solutions

Answers vary. There are many possible pairs of base and height lengths to make an area of 24 square units.

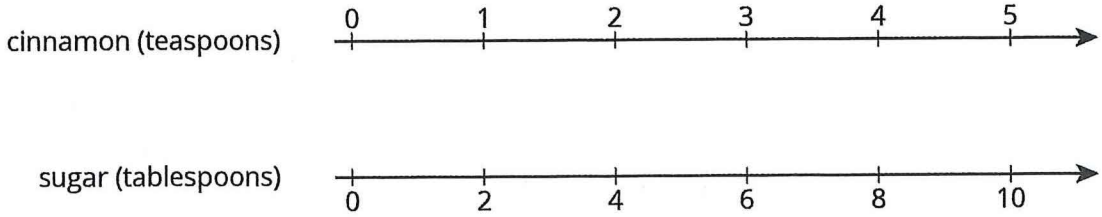
Lesson 7 Practice Problems

Problem 1

A recipe for cinnamon rolls uses 2 tablespoons of sugar per teaspoon of cinnamon for the filling. Complete the double number line diagram to show the amount of cinnamon and sugar in 3, 4, and 5 batches.

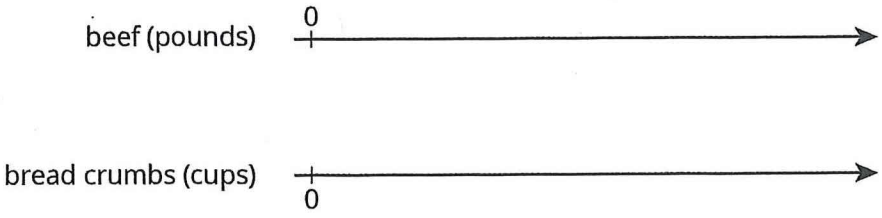


Possible Solutions



Problem 2

One batch of meatloaf contains 2 pounds of beef and $\frac{1}{2}$ cup of bread crumbs. Complete the double number line diagram to show the amounts of beef and bread crumbs needed for 1, 2, 3, and 4 batches of meatloaf.



Possible Solutions

1 batch: 2 pounds of beef, $\frac{1}{2}$ cup of bread crumbs. 2 batches: 4 pounds of beef, 1 cup of bread crumbs. 3 batches: 6 pounds of beef, $1\frac{1}{2}$ cups of bread crumbs. On a double number line, the top line is labeled 2, 4, 6, 8 and the bottom line is labeled $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2.

Problem 3

A recipe for tropical fruit punch says, "Combine 4 cups of pineapple juice with 5 cups of orange juice."

a. Create a double number showing the amount of each type of juice in 1, 2, 3, 4, and 5 batches of the recipe.

b. If 12 cups of pineapple juice are used with 20 cups of orange juice, will the recipe taste the same? Explain your reasoning.

c. The recipe also calls for $\frac{1}{3}$ cup of lime juice for every 5 cups of orange juice. Add a line to your diagram to represent the amount of lime juice in different batches of tropical fruit punch.

Possible Solutions

a. Answers vary. A correct double number line will have equally spaced tick marks. A line labeled "cups of pineapple juice" is labeled 0, 4, 8, 12, 16, 20 and a line labeled "cups of orange juice" is labeled 0, 5, 10, 15, 20, 25.

b. No, it will not taste the same. 12 cups of pineapple juice should be mixed with 15 cups of orange juice.

c. A line labeled "cups of lime juice" is labeled $\frac{1}{3}, \frac{2}{3}, 1, 1\frac{1}{3}, 1\frac{2}{3}$.

Problem 4

From Grade 6, Unit 2, Lesson 4

One batch of pink paint uses 2 cups of red paint and 7 cups of white paint. Mai made a large amount of pink paint using 14 cups of red paint.

a. How many batches of pink paint did she make?

b. How many cups of white paint did she use?

Possible Solutions

a. 7 batches (because 14 is $7 \cdot 2$)

b. 49 cups (because $7 \cdot 7 = 49$)

Problem 5

From Grade 6, Unit 2, Lesson 5

a. Find three different ratios that are equivalent to the ratio $3 : 11$.

b. Explain why your ratios are equivalent.

Possible Solutions

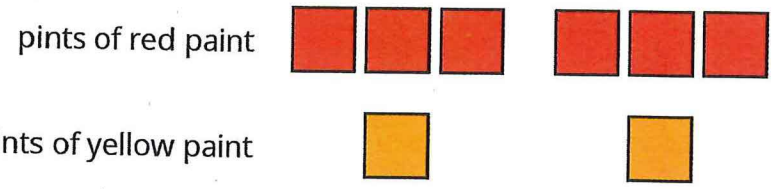
a. Answers vary. Sample response: $6 : 22, 9 : 33, 12 : 44$.

b. Answers vary. Sample response: These ratios come from $3 : 11$ by multiplying both numbers in the ratio by 2, 3, and 4 respectively.

Problem 6

From Grade 6, Unit 2, Lesson 2

Here is a diagram that represents the pints of red and yellow paint in a mixture.



Select **all** statements that accurately describe the diagram.

A. The ratio of yellow paint to red paint is 2 to 6.

B. For every 3 pints of red paint, there is 1 pint of yellow paint.

C. For every pint of yellow paint, there are 3 pints of red paint.

D. For every pint of yellow paint there are 6 pints of red paint.

E. The ratio of red paint to yellow paint is $6 : 2$.

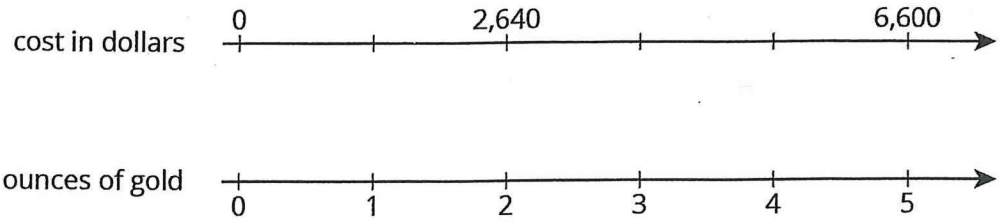
Possible Solutions

A, B, C, E

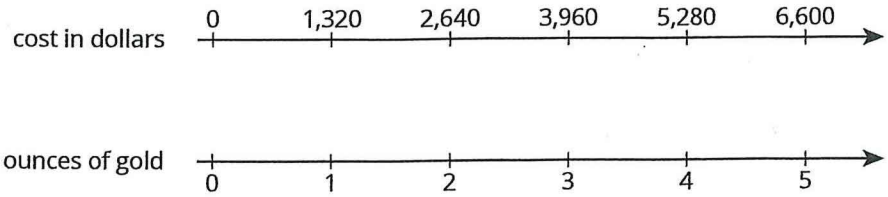
Lesson 8 Practice Problems

Problem 1

In 2016, the cost of 2 ounces of pure gold was $2,640. Complete the double number line to show the cost for 1, 3, and 4 ounces of gold.

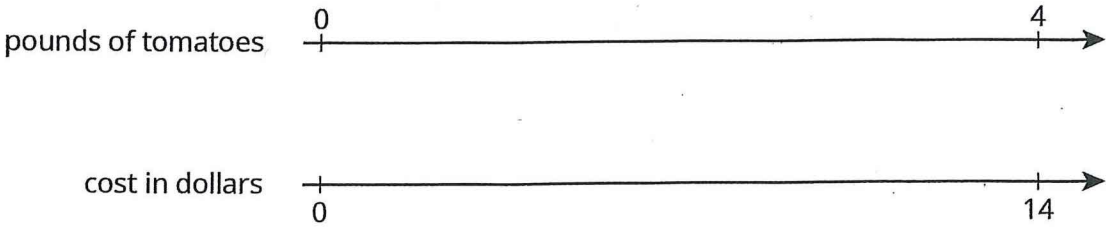


Possible Solutions

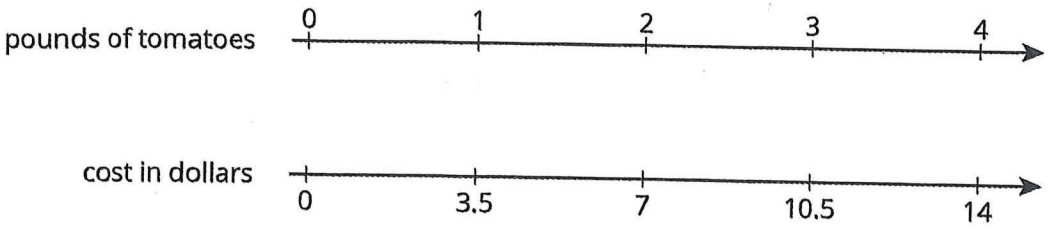


Problem 2

The double number line shows that 4 pounds of tomatoes cost $14. Draw tick marks and write labels to show the prices of 1, 2, and 3 pounds of tomatoes.



Possible Solutions



Problem 3

4 movie tickets cost $48. At this rate, what is the cost of:

a. 5 movie tickets?

b. 11 movie tickets?

Possible Solutions

a. $60 (1 ticket costs $12 because $48 \div 4 = 12$. 5 tickets cost $60 because $5 \cdot 12 = 60$.)

b. $132 (because $11 \cdot 12 = 132$)

Problem 4

Priya bought these items at the grocery store. Find each unit price.

a. 12 eggs for $3. How much is the cost per egg?

b. 3 pounds of peanuts for $7.50. How much is the cost per pound?

c. 4 rolls of toilet paper for $2. How much is the cost per roll?

d. 10 apples for $3.50. How much is the cost per apple?

Possible Solutions

a. 25 cents or $0.25

b. $2.50

c. 50 cents or $0.50

d. 35 cents or $0.35

Problem 5

From Grade 6, Unit 2, Lesson 3

Clare made a smoothie with 1 cup of yogurt, 3 tablespoons of peanut butter, 2 teaspoons of chocolate syrup, and 2 cups of crushed ice.

a. Kiran tried to double this recipe. He used 2 cups of yogurt, 6 tablespoons of peanut butter, 5 teaspoons of chocolate syrup, and 4 cups of crushed ice. He didn't think it tasted right. Describe how the flavor of Kiran's recipe compares to Clare's recipe.

b. How should Kiran change the quantities that he used so that his smoothie tastes just like Clare's?

Possible Solutions

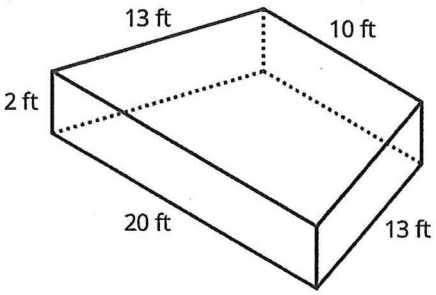
a. Kiran's smoothie would be more chocolatey than Clare's. All ingredients are doubled, but there is an extra teaspoon of chocolate syrup in his smoothie.

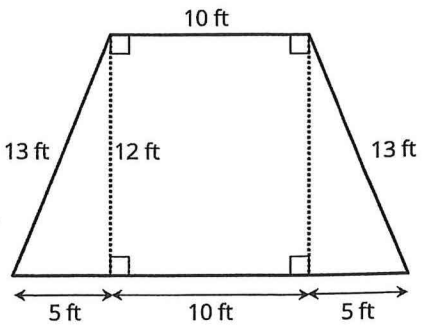
b. Answers vary. Sample response: he should use 4 teaspoons of chocolate syrup instead of 5.

Problem 6

From Grade 6, Unit 1, Lesson 15

A drama club is building a wooden stage in the shape of a trapezoidal prism. The height of the stage is 2 feet. Some measurements of the stage are shown here.





What is the area of all the faces of the stage, excluding the bottom? Show your reasoning. If you get stuck, consider drawing a net of the prism.

Possible Solutions

292 square feet. Sample reasoning: The trapezoidal face is 180 square feet since $(12 \cdot 10) + 2(\frac{1}{2} \cdot 12 \cdot 5) = 120 + 60 = 180$. The side faces are $2(13 \cdot 2) + (10 \cdot 2) + (20 \cdot 2)$ or 112 square feet.

Lesson 9 Practice Problems

Problem 1

Han ran 10 meters in 2.7 seconds. Priya ran 10 meters in 2.4 seconds.

a. Who ran faster? Explain how you know.

b. At this rate, how long would it take each person to run 50 meters? Explain or show your reasoning.

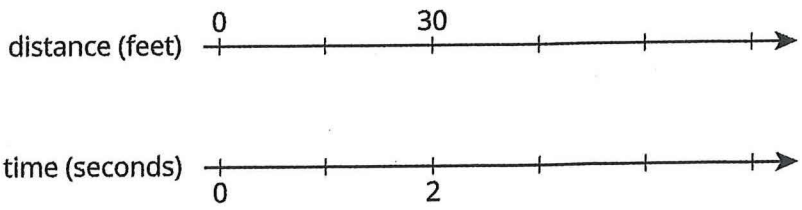
Possible Solutions

a. Priya ran faster. Sample explanation: Priya ran the same distance (10 meters) in *less* time than Han. This means she was running faster.

b. At this rate, it would take Han13.5 seconds to run 50 meters. Since 50 meters is 5 times 10 meters, the time it would take is 5 times 2.7 seconds. It would take Priya 12 seconds, which is 5 times 2.4 seconds, to run 50 meters.

Problem 2

A scooter travels 30 feet in 2 seconds at a constant speed.



a. What is the speed of the scooter in feet per second?

b. Complete the double number line to show the distance the scooter travels after 1, 3, 4, and 5 seconds.

c. A skateboard travels 55 feet in 4 seconds. Is the skateboard going faster, slower, or the same speed as the scooter?

Possible Solutions

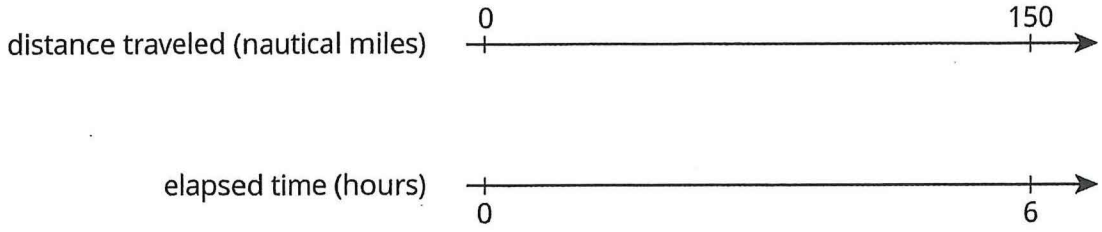
a. 15 feet per second.

b. Distance: 0, 15, 30, 45, 60, 75. Time: 0, 1, 2, 3, 4, 5.

c. Slower. The scooter travels 60 feet in 4 seconds, so it is going faster than the skateboard, which travels 55 feet in 4 seconds.

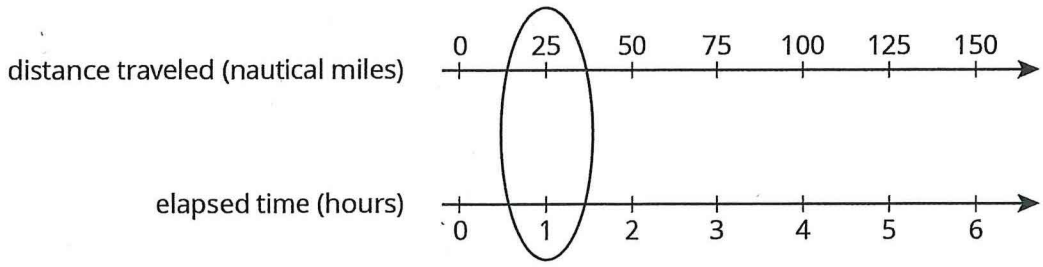
Problem 3

A cargo ship traveled 150 nautical miles in 6 hours at a constant speed. How far did the cargo ship travel in one hour?



Possible Solutions

The ship travels 25 nautical miles in 1 hour. Possible strategy:



Problem 4

From Grade 6, Unit 2, Lesson 3

A recipe for pasta dough says, "Use 150 grams of flour per large egg."

a. How much flour is needed if 6 large eggs are used?

b. How many eggs are needed if 450 grams of flour are used?

Possible Solutions

a. 900 grams

b. 3 eggs

Problem 5

From Grade 6, Unit 2, Lesson 8

The grocery store is having a sale on frozen vegetables. 4 bags are being sold for $11.96. At this rate, what is the cost of:

a. 1 bag

b. 9 bags

Possible Solutions

a. $2.99

b. $26.91

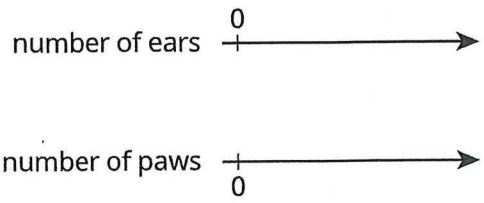
Problem 6

From Grade 6, Unit 2, Lesson 7

A pet owner has 5 cats. Each cat has 2 ears and 4 paws.

a. Complete the double number line to show the numbers of ears and paws for 1, 2, 3, 4, and 5 cats.

b. If there are 3 cats in the room, what is the ratio of ears to paws?



c. If there are 4 cats in the room, what is the ratio of paws to ears?

d. If all 5 cats are in the room, how many more paws are there than ears?

Possible Solutions

a. Ears: 2, 4, 6, 8, 10; Paws: 4, 8, 12, 16, 20

b. $6 : 12$

c. $16 : 8$

d. 10

Problem 7

From Grade 6, Unit 2, Lesson 5

Each of these is a pair of equivalent ratios. For each pair, explain why they are equivalent ratios or draw a representation that shows why they are equivalent ratios.

a. $5 : 1$ and $15 : 3$

b. $25 : 5$ and $10 : 2$

c. $198 : 1{,}287$ and $2 : 13$

Possible Solutions

Answers vary. Sample response:

a. Multiplying the numbers in the first ratio by 3 gives the numbers in the second ratio.

b. Multiplying the numbers in the second ratio by 10 gives the numbers in the first ratio.

c. Multiply 2 by 99 (or $100 - 1$), to get 198 (or $200 - 2$), and multiply 13 by 99, to get 1,287 ($1,300 - 13$).