

Top 10 Things Your Sixth Grader Will Need to Know

1. Reading and comprehending nonfiction, fiction, dramas, and poems
2. Writing and revising research and reflection papers
3. Meanings of unknown and multiple-meaning words and phrases
4. Figurative language, word relationships, and nuances in word meanings
5. Ratio concepts and using ratio reasoning to solve problems
6. Computing with multidigit numbers and finding common factors and multiples
7. Applying math to algebraic expressions
8. Solving one-variable equations and inequalities
9. Reading and comprehending science/technical text according to grade level
10. Reading and comprehending history/social studies text according to grade level

10

Rising 6th
Grade



Name: _____

Working with Fractions

Directions: Answer the questions below using the charts.

Instrucciones: Contesta las preguntas de abajo usando las gráficas.

For a science project, Mrs. Gaston's science class is recording the growth of their blue iguana at the end of every month. Her class uses a table like this:

Month	Growth in Inches
September	$\frac{1}{8}$ inch
October	$\frac{3}{8}$ inch
November	$\frac{5}{8}$ inch
December	$\frac{1}{8}$ inch

- How many inches had the blue iguana grown by the end of October? _____
- How many inches had the blue iguana grown by the end of December? _____
- If the blue iguana was $3\frac{3}{8}$ inches long by the end of September, how long was the iguana at the end of August? _____

For a science fair project, Javier is recording the amount of water that evaporates from a bucket in a month. He creates a table like this:

Week	Amount of Water that Evaporates
1	$\frac{2}{16}$ inch
2	$\frac{1}{16}$ inch
3	$\frac{3}{16}$ inch
4	$\frac{2}{16}$ inch

- How much water had evaporated from the bucket at the end of Week 2? _____
- What was the total amount of water that evaporated in the four weeks? _____
- If Javier originally put 4 inches of water in the bucket, how many inches of water were left after the experiment was completed? _____

Problem Solving with Decimals

Directions: Solve each problem. Show your work, and write your answer in a complete sentence.

Instrucciones: Resuelve cada problema. Muestra tu trabajo y escribe tu respuesta en una oración completa.

1. The tennis player served the tennis ball at a top speed of 111.35 miles per hour. His opponent served at a top speed of 106.85 miles per hour. What is the difference between the two speeds?

$$\begin{array}{r} ^{\text{00}}^{\text{10}}^{\text{13}} \\ 111.35 \\ - 106.85 \\ \hline 4.50 \end{array}$$

Answer: The difference is 4.5 miles per hour.

2. Sheila is redecorating her room. She needs 8.25 yards of fabric for the curtains and 16.25 yards for the bedspread and the chair. How many whole yards must Sheila purchase to ensure that she will have enough material?

Answer: _____

3. Deacon and Gary had lunch together at a restaurant. Deacon's entree cost \$13.75 and Gary's entree was \$12.55. Both men had dessert for \$1.95 each. How much was the total bill?

Answer: _____

4. Ms. Lee has a balance of \$2,563.37 in her checking account. She needs to write two checks—one for \$833.25 and the other for \$475.66. How much will be left in her checking account?

Answer: _____

5. Estela scored a 5.75 in the technical category in the ice-skating championship. In the artistic category, she scored a 5.9. Meredith outscored Estela by 0.32. What was Meredith's overall score?

Answer: _____

Order of Operations

Directions: Evaluate the expressions. Be sure to follow the order of operations.

Instrucciones: *Evalúa las expresiones. Asegúrate de seguir el orden de operaciones.*



Evaluate expressions in this order:
PEMDAS

Parentheses: Do operations in parentheses.

Exponents: Find the value of numbers with exponents.

Multiply and Divide in order from left to right.

Add and Subtract in order from left to right.

Evalúa las expresiones en este orden:
PEMDSR

Paréntesis: *Haz operaciones en paréntesis.*

Exponentes: *Encuentra el valor de números con exponentes.*

Multiplica y Divide *en orden de izquierda a derecha.*

Suma y Resta *en orden de izquierda a derecha.*

1. $4^2 + 9 - (3 \times 5)$

$$\begin{aligned} 4^2 + 9 - 15 &= \\ (4 \times 4) + 9 - 15 &= \\ 16 + 9 - 15 &= \\ 25 - 15 &= 10 \end{aligned}$$

5. $8^2 + (4 \times 5) - 21$

9. $(6 \times 5) - 14 - 4^2$

2. $9^2 + (9 \times 2 - 12)$

6. $(9 \times 5) - 2^3 + 16$

10. $12^2 - (9 \times 12) - 4^2$

3. $10 + (8 \times 3) - 3^2$

7. $(15 \div 5) + 7 - 2^2$

11. $13^2 - (11 \times 9) + 16$

4. $(8 \times 8) - 4^3 + 1$

8. $(9 + 11) - 3^2 + 7$

12. $13 + (6 \times 8) - 5^2$

Multidigit Multiplication

Directions: Find each product. Show all your work.

Instrucciones: Encuentra cada producto. Muestra todo tu trabajo.

1.
$$\begin{array}{r} 261 \\ \times 71 \\ \hline 261 \\ 18,270 \\ \hline 18,531 \end{array}$$

4.
$$\begin{array}{r} 243 \\ \times 17 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 951 \\ \times 31 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 785 \\ \times 66 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 864 \\ \times 25 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 232 \\ \times 19 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 235 \\ \times 69 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 871 \\ \times 92 \\ \hline \end{array}$$

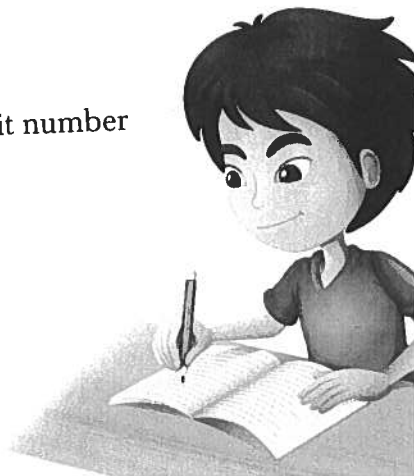
3.
$$\begin{array}{r} 785 \\ \times 98 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 637 \\ \times 44 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 693 \\ \times 77 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 967 \\ \times 27 \\ \hline \end{array}$$

13. Show or explain the process of multiplying a three-digit number by a two-digit number.



Multiplication Message

Directions: Solve the problems. Use the letter for each answer to decode the hidden message at the bottom.

Instrucciones: Resuelve los problemas. Usa la letra de cada respuesta para descifrar el mensaje oculto al final.



To multiply fractions:

Para multiplicar fracciones:

1. Multiply the two numerators.

Multiplica los dos numeradores.

2. Multiply the two denominators.

Multiplica los dos denominadores.

3. Write the answer in its simplest form.

Escribe la respuesta en su forma más simple.

$$\frac{2}{3} \times \frac{3}{5} = \frac{6}{15} \div \frac{3}{3} = \frac{2}{5}$$

1. (A) $\frac{8}{12} \times \frac{1}{4} =$

4. (E) $\frac{1}{12} \times \frac{1}{5} =$

7. (H) $\frac{3}{4} \times \frac{5}{10} =$

10. (I) $\frac{3}{7} \times \frac{2}{5} =$

2. (N) $\frac{6}{12} \times \frac{1}{8} =$

5. (O) $\frac{9}{10} \times \frac{9}{12} =$

8. (R) $\frac{2}{9} \times \frac{7}{12} =$

11. (S) $\frac{2}{4} \times \frac{3}{8} =$

3. (T) $\frac{1}{7} \times \frac{4}{10} =$

6. (W) $\frac{1}{3} \times \frac{6}{9} =$

9. (Y) $\frac{2}{11} \times \frac{9}{11} =$

Hidden Message

$$\frac{6}{35} \quad \frac{2}{35} \quad \frac{3}{16}$$

$$\frac{1}{6} \quad \frac{3}{16}$$

$$\frac{1}{60} \quad \frac{1}{6} \quad \frac{3}{16} \quad \frac{18}{121}$$

$$\frac{1}{6} \quad \frac{3}{16}$$

$$\frac{27}{40} \quad \frac{1}{16} \quad \frac{1}{60}$$

$$\frac{2}{35} \quad \frac{2}{9} \quad \frac{27}{40}$$

$$\frac{2}{35} \quad \frac{3}{8} \quad \frac{7}{54} \quad \frac{1}{60} \quad \frac{1}{60}$$

Triangles

Directions: Classify each triangle by its sides and by its angles.

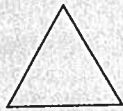
Instrucciones: Clasifica cada triángulo por sus lados y por sus ángulos.



You can classify triangles in two different ways.
Puedes clasificar triángulos en dos diferentes maneras.

Classify by Sides
Clasifica por lados

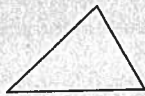
Equilateral: Three equal sides; therefore, all sides are congruent.
Equilátero: Tres lados iguales; por lo tanto, todos los lados son congruentes.



Isosceles: Two equal sides; therefore, two sides are congruent.
Isósceles: Dos lados iguales; por lo tanto, dos lados son congruentes.



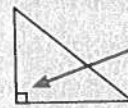
Scalene: No sides are equal; therefore, no sides are congruent.
Escaleno: No hay lados iguales; por lo tanto, no hay lados congruentes.



Classify by Angles
Clasifica por ángulos

Right: A triangle with one right angle, measuring 90° .

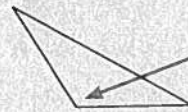
Recto: Un triángulo con un ángulo recto que mide 90° .



Right Angle

Obtuse: A triangle with one obtuse angle, measuring greater than 90° .

Obtuso: Un triángulo con un ángulo obtuso que mide más de 90° .



Obtuse Angle

Acute: A triangle with only acute angles, each measuring less than 90° .

Agudo: Un triángulo con sólo ángulos agudos que miden menos de 90° .

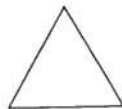


Acute Angle

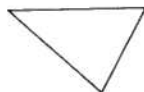
1.



2.



3.



Turn Up the Volume

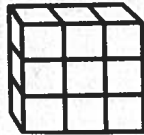
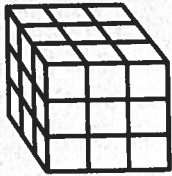
Directions: Determine the volume of each solid. It may be helpful to draw each layer of the solid on a separate sheet of paper.

Instrucciones: Determina el volumen de cada sólido. Puede ser útil dibujar cada capa de la figura sólida en una hoja de papel aparte.

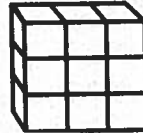


Volume is a measurement of the amount of space inside a solid figure. Volume is measured in cubic units.

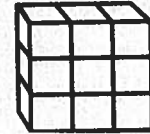
El volumen es una medida de la cantidad de espacio dentro de un sólido. El volumen se mide en unidades cúbicas.



layer 1

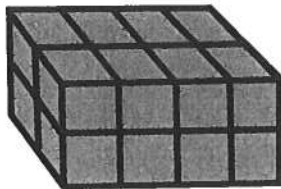


layer 2



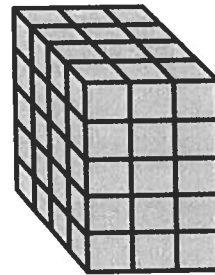
layer 3

1.

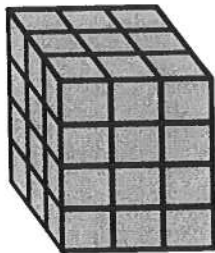


16 cubic units

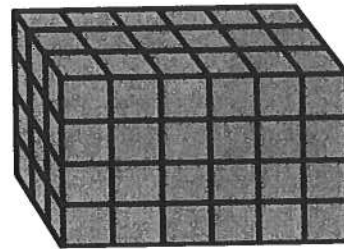
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2.



4.



Volume Formula

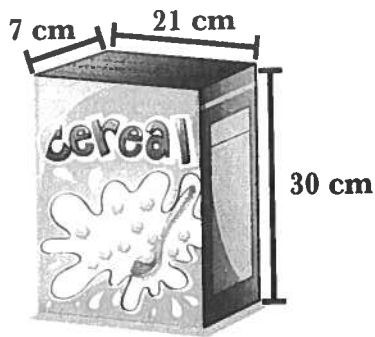
Directions: Use the volume formula to find the volume of the objects. Be sure to label the volume in cubic units.

Instrucciones: Usa la fórmula de volumen para encontrar el volumen de los objetos. Asegúrate de escribir el volumen en unidades cúbicas.

To find the volume of a rectangular prism, multiply the length \times width \times height. The formula for finding the volume of a rectangular prism is $V = l \times w \times h$.

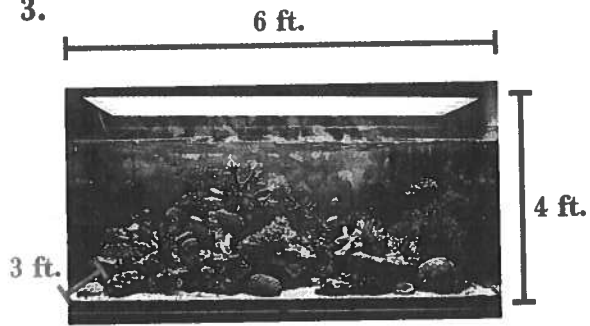
Para encontrar el volumen de un prisma rectangular, multiplica la longitud \times anchura \times altura. La fórmula para encontrar el volumen de un prisma rectangular es $V = l \times w \times h$.

1.

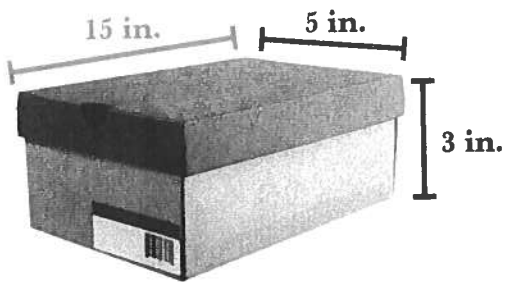


$$21 \times 7 \times 30 = 4,410 \text{ cm}^3$$

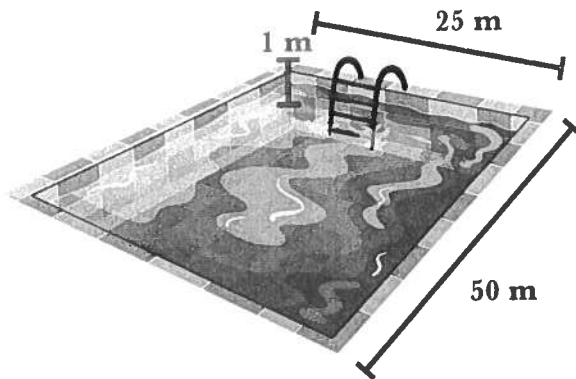
3.



2.



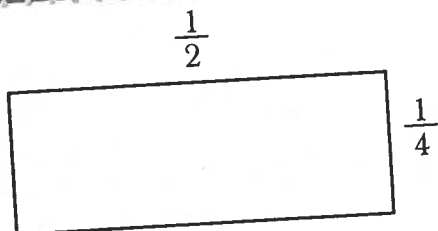
4.



Fractional Areas

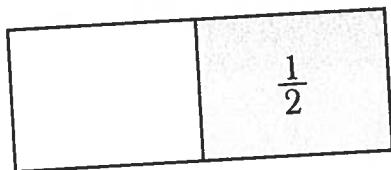
Directions: Use the area model to find the product of the fractions.

Instrucciones: Usa el modelo de área para encontrar los productos de las fracciones.



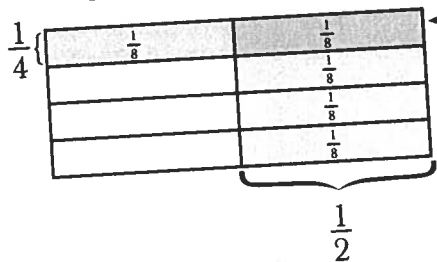
First, divide the rectangle in half, and shade $\frac{1}{2}$:

Primero, divide el rectángulo por la mitad, y sombrea $\frac{1}{2}$:



Then, divide the rectangle in fourths, and shade $\frac{1}{4}$:

Luego, divide el rectángulo en cuartos, y sombrea $\frac{1}{4}$:

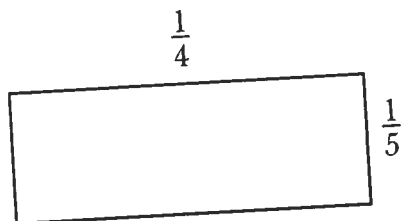


$$\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$$

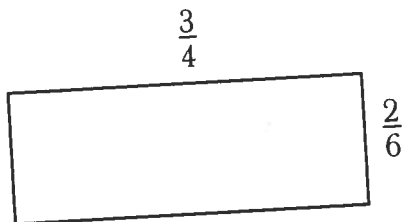
The shaded portion that overlaps is the product.

La porción sombreada que se sobrepone es el producto.

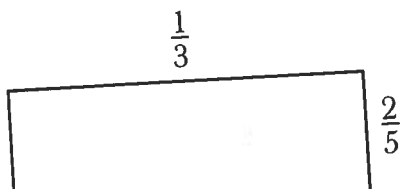
1.



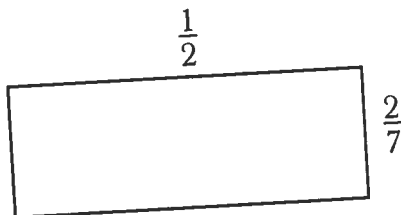
3.



2.



4.





Add and Subtract Decimals: Chain Links

Directions: Fill in the missing links in the chain below.

Instrucciones: Escribe los números que faltan en la cadena de abajo.

1.

$$100 - 14.3 = \text{ } - 27.53 = \text{ }$$

+

2.

$$100 - 75.21 = \text{ } - 11.6 = \text{ }$$

+

3.

$$100 - 81.8 = \text{ } - 0.56 = \text{ }$$

+

4.

$$100 - 50.93 = \text{ } - 8.5 = \text{ }$$

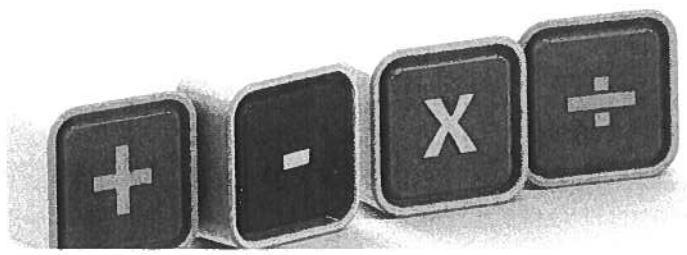
+

5.

$$100 - 0.25 = \text{ } - 64.8 = \text{ }$$

=

$$\text{ } = \text{ }$$



Multiply Fractions Using the Standard Algorithm

Directions: Find each product, then prove your answer by drawing an area model. Write the final answer in simplest form.

Instrucciones: Encuentra cada producto, luego comprueba tu respuesta usando un modelo de área. Escribe cada respuesta final en la forma más simple.

You have learned that you can draw an area model to find the product of two fractions. You can also multiply fractions by multiplying the numerators, and then multiplying the denominators.

Haz aprendido que puedes dibujar un modelo de área para encontrar el producto de dos fracciones. También puedes multiplicar fracciones al multiplicar los numeradores y luego multiplicar los denominadores.

Example: $\frac{2}{3} \times \frac{9}{10}$

1. Multiply the numerators, and then multiply the denominators.

Multiplica los numeradores y luego los denominadores.

$$\frac{2}{3} \times \frac{9}{10} = \frac{2 \times 9}{3 \times 10} = \frac{18}{30}$$

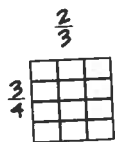
2. Simplify, if possible. The numerator and denominator are both divisible by 6.

Simplifica, si es posible. El numerador y el denominador se pueden dividir por 6.

$$\frac{18 \div 6}{30 \div 6} = \frac{3}{5}$$

1. $\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$

$$\frac{2 \times 3 = 6}{3 \times 4 = 12} \quad \frac{6 \div 6 = 1}{12 \div 6 = 2}$$



4. $\frac{5}{9} \times \frac{3}{4} =$

2. $\frac{1}{6} \times \frac{3}{5} =$

5. $\frac{1}{3} \times \frac{6}{7} =$

3. $\frac{2}{5} \times \frac{1}{26} =$

6. $\frac{4}{9} \times \frac{3}{4} =$

Add Fractions with Unlike Denominators

Directions: Find each sum. Simplify.

Instrucciones: Encuentra cada suma. Simplifica.



You must have a common denominator when adding and subtracting fractions.

Debes de tener un común denominador al sumar y restar fracciones.

Example: $\frac{1}{3} + \frac{1}{2}$

Step 1: Multiply the denominators to find a common denominator.

Multiplica los denominadores para encontrar un común denominador.

$$3 \times 2 = 6$$

Step 2: Write equivalent fractions using the common denominator.

Escribe fracciones equivalentes usando el común denominador.

$$\frac{1}{3} \times \frac{2}{2} = \frac{2}{6}$$

$$\frac{1}{2} \times \frac{3}{3} = \frac{3}{6}$$

Step 3: Solve. Simplify, if possible.

Resuelve. Simplifica, si es posible.

$$\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$$

1. $\frac{3}{8} + \frac{1}{2} =$ _____

4. $\frac{1}{4} + \frac{2}{3} =$ _____

2. $\frac{2}{10} + \frac{2}{5} =$ _____

5. $\frac{3}{5} + \frac{1}{2} =$ _____

3. $\frac{3}{4} + \frac{1}{6} =$ _____

6. $\frac{5}{12} + \frac{1}{4} =$ _____

Product Matching

Directions: Find each product. Then, match each equation with the model of the product below. Write the corresponding letter next to the product.

Instrucciones: Encuentra cada producto. Luego, corresponde cada ecuación con el modelo del producto de abajo. Escribe la letra que corresponde al lado de cada producto.

1. $\frac{3}{4} \times \frac{1}{2} =$ _____

2. $\frac{2}{3} \times \frac{4}{5} =$ _____

3. $\frac{3}{5} \times \frac{1}{6} =$ _____

4. $\frac{6}{8} \times \frac{1}{4} =$ _____

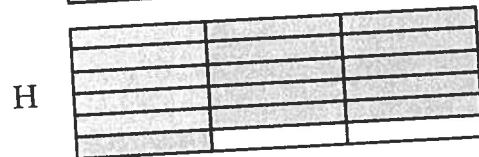
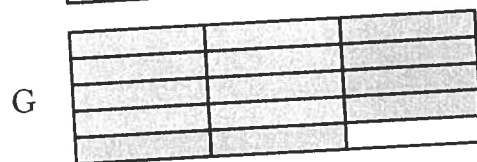
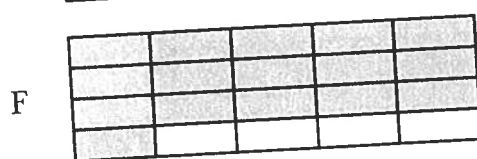
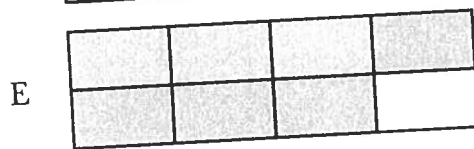
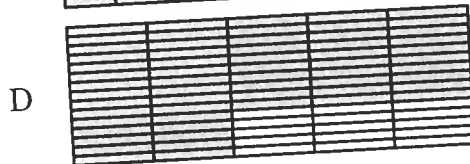
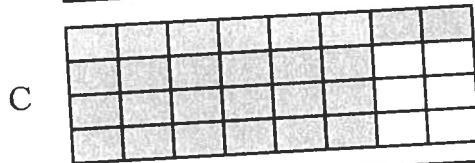
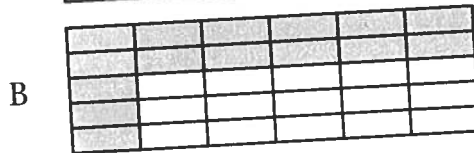
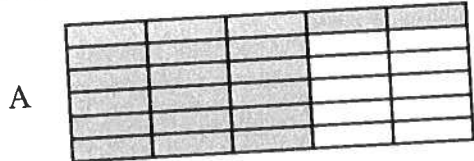
5. $\frac{1}{3} \times \frac{5}{6} =$ _____

6. $\frac{7}{8} \times \frac{1}{2} =$ _____

7. $\frac{1}{6} \times \frac{2}{5} =$ _____

8. $\frac{2}{5} \times \frac{10}{15} =$ _____

9. $\frac{1}{5} \times \frac{3}{4} =$ _____



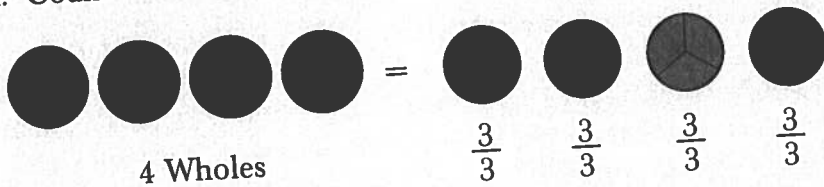
Divide Whole Numbers by Fractions Using a Model

Directions: Draw a model and write an equation for each situation.

Instrucciones: Dibuja un modelo y escribe una ecuación para cada situación.

Example: Linnaea is hosting a barbecue. She bought 4 pounds of meat for hamburgers. She wants to make $\frac{1}{3}$ pound hamburger patties. How many hamburgers will she be able to make?

Use a model. Count the number of thirds to find the solution.



$$4 \div \frac{1}{3} = 12$$

She can make 12 hamburgers.

Joanna is almost finished building a deck in her backyard. She has only one 16-ft. board left. She needs to divide it into $\frac{1}{2}$ -ft. segments. How many pieces will she have?

2. It is nearing the end of a baseball game. There are 2 innings left, and the manager wants each pitcher to pitch $\frac{2}{3}$ of an inning. How many pitchers will he need?

3. Garrett has 6 feet of fabric. He needs $\frac{2}{3}$ foot to make golf club covers. How many golf club covers can he make with the available fabric?

Customary Units

Directions: Find the equivalent measures.

Instrucciones: Encuentra la medidas equivalentes.

h

Capacity

Weight

1 ft. = 12 inches (in.)

1 cup (c.) = 8 fluid ounces (fl. oz.)

1 pound (lb.) = 16 ounces (oz.)

1 yd. = 3 feet (ft.)

1 pint (pt.) = 2 cups (c.)

1 ton (tn.) = 2,000 pounds (lb.)

1 mi. = 1,760 yards (yd.)

1 quart (qt.) = 2 pints (pt.)

1 mi. = 5,280 feet (ft.)

1 gallon (gal.) = 4 quarts (qt.)

1. 4 yd. = _____ ft.

6. _____ in. = 7 yd.

2. 2 mi. = _____ ft.

7. 6 qt. = _____ pt.

3. 5 ft. = _____ in.

8. 2 gal. = _____ c.

4. _____ ft. = 180 in.

9. 24 pt. = _____ gal.

5. _____ yd. = 1.5 mi.

10. 10,000 lb. = _____ tn.

