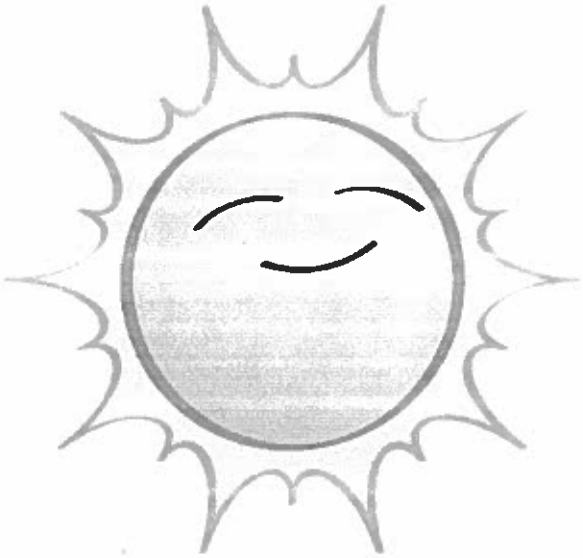
SDS
Summer Math



Rising 5th Grade

Name _____

Compare and Order Numbers

Compare 31,072 and 34,318. Write <, >, or =.

Step 1 Align the numbers by place value using grid paper.

Step 2 Compare the digits in each place value. Start at the greatest place.

Are the digits in the ten thousands place the same?
____ Move to the thousands place.
Are the digits in the thousands place the same?
____ 1 thousand is less than 4 thousands.

start here

Step 3 Use the symbols <, >, or = to compare the numbers.

< means *is less than.* > means *is greater than.* = means *is equal to.*

There are two ways to write the comparison.

31,072 ◯ 34,318 or 34,318 ◯ 31,072

1. Use the grid paper to compare 21,409 and 20,891. Write <, >, or =.
   21,409 ◯ 20,891

Compare. Write <, >, or =.

2. $53,621 ◯ $53,760

3. 82,550 ◯ 80,711

Order from greatest to least.

4. 16,451; 16,250; 17,014

5. 561,028; 582,073; 549,006

_____ _____

Name _____

Add Whole Numbers

Find the sum. 63,821 + 34,765

Step 1 Round each addend to estimate.
60,000 + 30,000 = _____

Step 2 Use a place-value chart to line up the digits by place value.

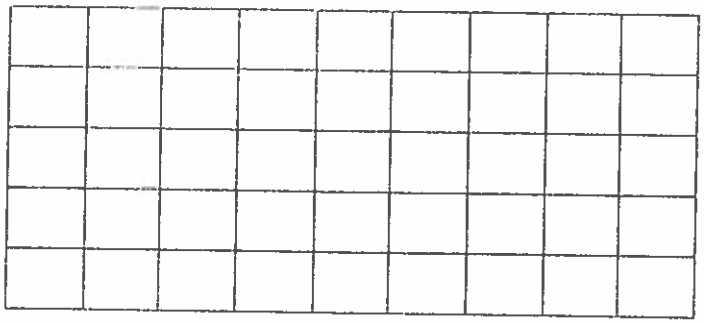
Step 3 Start with the ones place. Add from right to left. Regroup as needed.

	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
		6	3,	8	2	1
+		3	4,	7	6	5
						6

The sum is _____. Since 98,586 is close to the estimate 90,000. the answer is reasonable.

Estimate. Then find the sum.

1. Find 238,503 + 341,978. Use the grid to help.



Estimate: _____

2. Estimate: _____

52,851
+ 65,601

3. Estimate: _____

54,980
+ 24,611

4. Estimate: _____

604,542
+ 87,106

5. Estimate: _____

147,026
+ 106,792

6. Estimate: _____

278,309
+ 422,182

7. Estimate: _____

540,721
+ 375,899

Name _____

Multiply Tens, Hundreds, and Thousands

You can use a pattern to multiply with tens, hundreds, and thousands.

Count the number of zeros in the factors.

$4 \times 6 = 24$ ← basic fact

$4 \times 60 = 240$ ← When you multiply by tens, the last digit in the product is 0.

$4 \times 600 = 2{,}400$ ← When you multiply by hundreds, the last _____ digits in the product are 0.

$4 \times 6{,}000 = 24{,}000$ ← When you multiply by thousands, the last _____ digits in the product are 0.

When the basic fact has a zero in the product, there will be an extra zero in the final product:

$5 \times 4 = 20$, so $5 \times 4{,}000 = 20{,}000$

Complete the pattern.

1. $9 \times 2 = 18$

   $9 \times 20 =$ _____

   $9 \times 200 =$ _____

   $9 \times 2{,}000 =$ _____

2. $8 \times 4 = 32$

   $8 \times 40 =$ _____

   $8 \times 400 =$ _____

   $8 \times 4{,}000 =$ _____

3. $6 \times 6 = 36$

   $6 \times 60 =$ _____

   $6 \times 600 =$ _____

   $6 \times 6{,}000 =$ _____

4. $4 \times 7 = 28$

   $4 \times 70 =$ _____

   $4 \times 700 =$ _____

   $4 \times 7{,}000 =$ _____

Find the product.

5. $7 \times 300 = 7 \times$ _____ hundreds

   = _____ hundreds

   = _____

6. $5 \times 8{,}000 = 5 \times$ _____ thousands

   = _____ thousands

   = _____

Name _____

Multiply Using Expanded Form

You can use expanded form or a model to find products.

Multiply. 3×26

Think and Write

Step 1 Write 26 in expanded form.

$26 = 20 + 6$

$3 \times 26 = 3 \times (20 + 6)$

Step 2 Use the Distributive Property.

$3 \times 26 = (3 \times 20) + (\_\_\_\_ \times \_\_\_\_)$

Step 3 Multiply the tens. Multiply the ones.

$3 \times 26 = (3 \times 20) + (3 \times 6)$

$= \_\_\_\_ + \_\_\_\_$

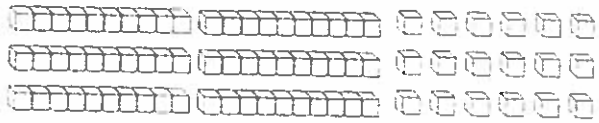
$$\begin{array}{r} 60 \\ +\ 18 \\ \hline \end{array}$$

Step 4 Add the partial products.

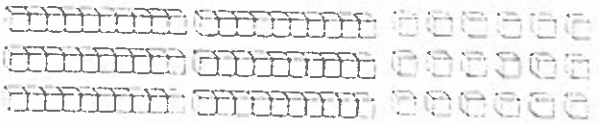
So, $3 \times 26 =$ _____.

Use a Model

Step 1 Show 3 groups of 26.



Step 2 Break the model into tens and ones.



(3 × 2 tens)	(3 × 6 ones)
(3 × 20)	(3 × 6)
_____	_____

Step 3 Add to find the total product.

_____ + _____ = _____

Record the product. Use expanded form to help.

1. $6 \times 14 =$ _____

2. $4 \times 52 =$ _____

3. $5 \times 162 =$ _____

4. $3 \times 279 =$ _____

Name _____

Multiply 2-Digit Numbers with Regrouping

Use place value to multiply with regrouping.

Multiply. 7×63

Step 1 Estimate the product.

$7 \times 60 =$

Step 2 Multiply the ones. Regroup 21 ones as tens one. Record the 1 one below the ones column and the tens above the tens column.

$$\begin{array}{r} 63 \\ \times\ 7 \\ \hline \end{array}$$

7×3 ones =

Step 3 Multiply the tens. Then, add the regrouped tens. Record the tens.

$$\begin{array}{r} 63 \\ \times\ 7 \\ \hline \end{array}$$

44 tens = 4 hundreds 4 tens

7×6 tens =

Add the 2 regrouped tens.

42 tens + 2 tens =

So, $7 \times 63 = 441$. Since 441 is close to the estimate of 420, it is

Estimate. Then record the product.

1. Estimate: _____

$$\begin{array}{r} 42 \\ \times\ 6 \\ \hline \end{array}$$

2. Estimate: _____

$$\begin{array}{r} 598 \\ \times\ 6 \\ \hline \end{array}$$

3. Estimate: _____

$$\begin{array}{r} 37 \\ \times\ 8 \\ \hline \end{array}$$

4. Estimate: _____

$$\begin{array}{r} 854 \\ \times\ 9 \\ \hline \end{array}$$

5. Estimate: _____

$$\begin{array}{r} 37 \\ \times\ 5 \\ \hline \end{array}$$

6. Estimate: _____

$$\begin{array}{r} 93 \\ \times\ 4 \\ \hline \end{array}$$

7. Estimate: _____

$$\begin{array}{r} 86 \\ \times\ 9 \\ \hline \end{array}$$

8. Estimate: _____

$$\begin{array}{r} 59 \\ \times\ 7 \\ \hline \end{array}$$

Name _____

Estimate Products

You can use rounding and compatible numbers to estimate products.

Use mental math and rounding to estimate the product.

Estimate. $62 \times \$23$

Step 1 Round each factor to the nearest ten. 62 rounds to _____
$23 rounds to _____

Step 2 Rewrite the problem using the rounded numbers. _____ × _____

Step 3 Use mental math.

_____ × $2 = _____
_____ × $20 = _____
_____ × $20 = _____

So, 62 × $23 is about _____.

Use mental math and compatible numbers to estimate the product.

Estimate. 24×78

Step 1 Use compatible numbers. 25 × 80

Step 2 Use 25 × 4 = 100 to help find 25 × 8.
25 × 8 = _____

Step 3 Since 80 has 1 zero, write 1 zero to the right of the product.

24 × 78
↓ ↓
25 × 80 = 2,000

So, 24 × 78 is about _____.

Estimate the product. Choose a method.

1. 78×21 _____
2. $59 \times \$46$ _____
3. 81×33 _____
4. 67×21 _____
5. $88 \times \$42$ _____
6. 51×36 _____
7. 73×73 _____
8. $99 \times \$44$ _____
9. 92×19 _____
10. 26×37 _____
11. 89×18 _____
12. 58×59 _____

Name _____

Multiply Using Partial Products

Multiply 25 × 43. Record the product.

Think: I can use partial products to find 25 × 43.

tens ones

4 3
× 2 5

Step 1 Multiply the tens by the tens.
20 × 4 tens = 80 tens, or 800. ⟶

Step 2 Multiply the ones by the tens.
20 × 3 ones = 60 ones, or 60. ⟶

Step 3 Multiply the tens by the ones.
5 × 4 tens = 20 tens, or 200. ⟶

Step 4 Multiply the ones by the ones.
5 × 3 ones = 15 ones, or 15. ⟶

_____

Step 5 Add the partial products.
800 + 60 + 200 + 15 = 1,075. ⟶

So, 25 × 43 = _____.

Record the product.

1. 25 × 62

_____

2. 59 × 38

_____

3. 85 × 72

_____

4. 46 × 52

_____

5. 76 × 23

_____

6. 38 × 95

_____

Name _____

Estimate Quotients Using Compatible Numbers

Compatible numbers are numbers that are easy to compute mentally. In division, one compatible number divides evenly into the other. Think of the multiples of a number to help you find compatible numbers.

Estimate. $6\overline{)216}$

Step 1 Think of these multiples of 6:

6 12 18 24 30 36 42 48 54

Find multiples that are close to the first 2 digits of the dividend. ____ tens and ____ tens are both close to ____ tens. You can use either or both numbers to estimate the whole-number quotient.

Step 2 Estimate using compatible numbers.

$216 \div 6$ $\quad\quad$ $216 \div 6$

So, $216 \div 6$ is between ____ and ____.

Step 3 Decide whether the estimate is closer to 30 or 40.

216 is closer to 240, so use ____ as the estimate.

Use compatible numbers to estimate the whole-number quotient.

1. $3\overline{)252}$ _____

2. $6\overline{)546}$ _____

3. $4\overline{)2{,}545}$ _____

4. $5\overline{)314}$ _____

5. $2\overline{)1{,}578}$ _____

6. $8\overline{)289}$ _____

Name _____

Prime and Composite Numbers

A **prime number** is a whole number greater than 1 that has exactly two factors, 1 and the number itself.

A **composite number** is a whole number greater than 1 that has more than two factors.

You can use division to find the factors of a number and tell whether the number is prime or composite.

Tell whether 55 is *prime* or *composite*.

Use division to find all the numbers that divide into 55 without a remainder. Those numbers are the factors of 55.

55 ÷ 1 = 55, so ___ and ___ are factors.

55 ÷ 5 = 11, so ___ and ___ are factors.

The factors of 55 are ___, ___, ___, and ___.

Because 55 has more than two factors, 55 is a composite number.

Tell whether 61 is *prime* or *composite*.

Use division to find all the numbers that divide into 61 without a remainder. Those numbers are the factors of 61.

61 ÷ 1 = 61, so ___ and ___ are factors.

There are no other numbers that divide into 61 evenly without a remainder.

The factors of 61 are ___ and ___.

Because 61 has exactly two factors, 61 is a prime number.

Tell whether the number is *prime* or *composite*.

1. 44

Think: Is 44 divisible by any number other than 1 and 44?

_____

2. 53

Think: Does 53 have other factors besides 1 and itself?

_____

3. 12 _____

4. 50 _____

5. 24 _____

6. 67 _____

7. 83 _____

8. 27 _____

9. 34 _____

10. 78 _____

Name _____

Compare Decimals

Alfie found 0.2 of a dollar and Gemma found 0.23 of a dollar. Which friend found more money?

To compare decimals, you can use a number line.

Step 1 Locate each decimal on a number line.

Step 2 The number farther to the right is greater.

, so _____ found more money.

To compare decimals, you can compare equal-size parts.

Step 1 Write 0.2 as a decimal in hundredths.

0.2 is 2 tenths, which is equivalent to ____ hundredths.

0.2 = ____

Step 2 Compare.

23 hundredths _____ 20 hundredths.
so

So, _____ found more money.

Compare. Write <, >, or =.

1. 0.17 ◯ 0.13
2. 0.8 ◯ 0.08
3. 0.36 ◯ 0.63
4. 0.4 ◯ 0.40
5. 0.75 ◯ 0.69
6. 0.3 ◯ 0.7
7. 0.45 ◯ 0.37
8. 0.96 ◯ 0.78

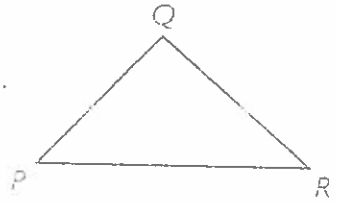
Name _____

Classify Triangles by Angles

A **triangle** is a polygon with ____ sides and ____ angles.
Each pair of sides joins at a vertex.

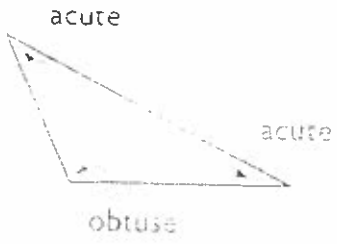
You can name a triangle by its vertices.

$\triangle PQR$ $\triangle QRP$ $\triangle RPQ$
$\triangle PRQ$ $\triangle QPR$ $\triangle RQP$

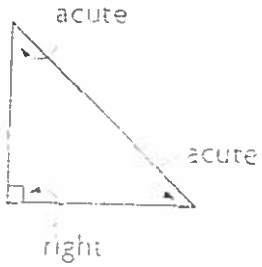


There are ____ types of triangles. All triangles have at least ____ acute angles.

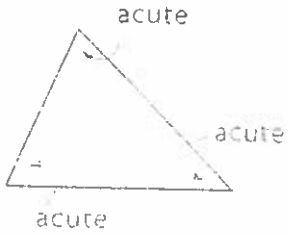
Obtuse triangle
one obtuse angle



Right triangle
one right angle



Acute triangle
three acute angles

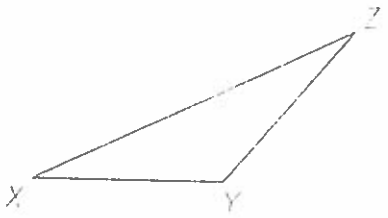


1. Name the triangle. Tell whether each angle is *acute*, *right*, or *obtuse*. A name for the triangle is _____.

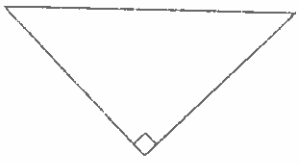
   ∠*X* is _____

   ∠*Y* is _____

   ∠*Z* is _____



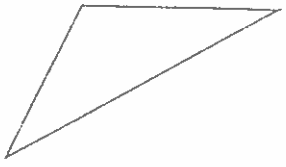
Classify each triangle. Write *acute*, *right*, or *obtuse*.

2. 

   _____

3. 

   _____

4. 

   _____

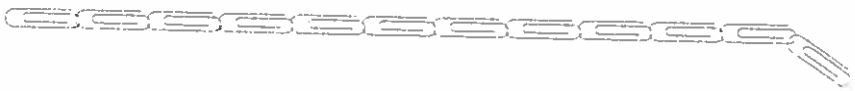
Name _____

Customary Units of Length

A ruler is used to measure length. A ruler that is 1 foot long shows 12 inches in 1 foot. A ruler that is 3 feet long is called a yardstick. There are 3 feet in 1 yard.

How does the size of a foot compare to the size of an inch?

Step 1 A small paper clip is about 1 inch long. Below is a drawing of a chain of paper clips that is about 1 foot long. Number each paper clip, starting with 1.



Step 2 Complete this sentence.

In the chain of paper clips shown, there are _____ paper clips.

Step 3 Compare the size of 1 inch to the size of 1 foot.

There are _____ inches in _____ foot.

So, 1 foot is _____ times as long as 1 inch.

Complete.

1. 5 feet = _____ inches

2. 3 yards = _____ feet

3. 5 yards = _____ feet

4. 4 feet = _____ inches

5. 6 feet = _____ inches

6. 8 yards = _____ feet

Name _____

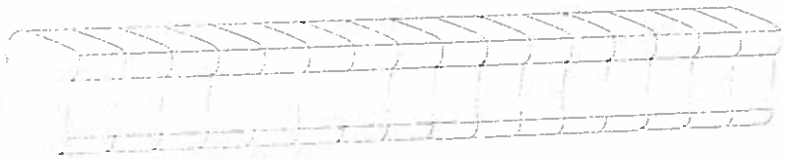
Customary Units of Weight

Ounces and **pounds** are customary units of weight. A **ton** is a unit of weight that is equal to 2,000 pounds.

A slice of bread weighs about 1 ounce. Some loaves of bread weigh about 1 pound.

How does the size of 1 ounce compare to the size of 1 pound?

Step 1 You know a slice of bread weighs about 1 ounce. Below is a drawing of a loaf of bread that weighs about 1 pound. Number each slice of bread, starting with 1.



Step 2 Complete this sentence.

In the loaf of bread shown above, there are _____ slices of bread.

Step 3 Compare the size of 1 ounce to the size of 1 pound.

There are _____ ounces in _____ pound.

So, 1 pound is _____ times as heavy as 1 ounce.

Complete.

1. 2 pounds = _____ ounces

2. 2 tons = _____ pounds

3. 7 pounds = _____ ounces

4. 4 pounds = _____ ounces

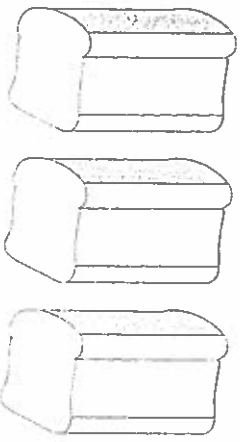
5. 3 tons = _____ pounds

6. 10 pounds = _____ ounces

Name _____

Metric Units of Mass and Liquid Volume

Mass is the amount of matter in an object. Metric units of mass include grams (g) and kilograms (kg). 1 kilogram represents the same mass as 1,000 grams.



One large loaf of bread has a mass of about 1 kilogram. Jacob has 3 large loaves of bread. About how many grams is the mass of the loaves?

3 kilograms = 3 × _____ grams

= _____ grams

Liters (L) and **milliliters** (mL) are metric units of liquid volume. 1 liter represents the same liquid volume as 1,000 milliliters.

A large bowl holds about 2 liters of juice. Carmen needs to know the liquid volume in milliliters.

2 liters = 2 × _____ milliliters

= _____ milliliters

Complete.

1. 4 kilograms = _____ grams

2. 9 liters = _____ milliliters

3. 3 liters = _____ milliliters

4. 7 kilograms = _____ grams

5. 5 kilograms = _____ grams

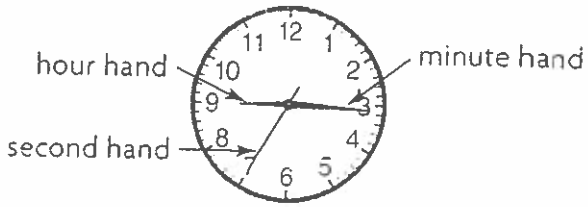
6. 8 liters = _____ milliliters

Name _____

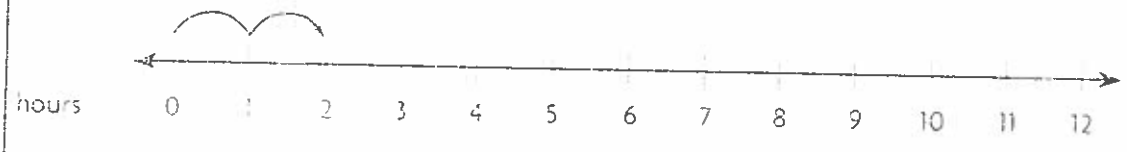
Units of Time

Some analog clocks have an hour hand, a minute hand, and a **second** hand.

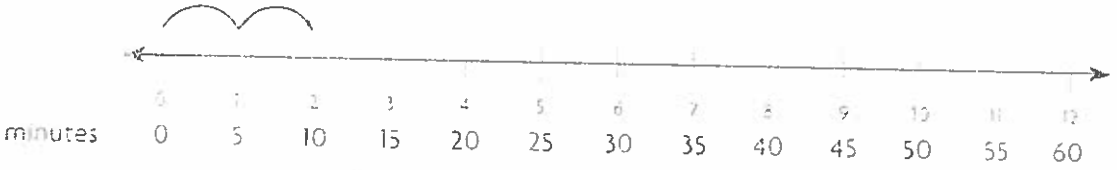
There are 60 seconds in a minute. The second hand makes 1 full turn every minute. There are 60 minutes in an hour. The minute hand makes 1 full turn every hour. The hour hand makes 1 full turn every 12 hours.



You can think of the clock as unrolling to become a number line.



The hour hand moves from one number to the next in 1 hour.



The minute hand moves from one number to the next in 5 minutes.

Use the table at the right to change between units of time.

Units of Time
1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 week = 7 days
1 year = 12 months
1 year = 52 weeks

1 hour = 60 minutes, or 60 × 60 seconds, or _____ seconds.

So, 1 hour is _____ times as long as 1 second.

1 day = 24 hours, so 3 days = 3 × 24 hours, or _____ hours.

1 year = 12 months, so 5 years = 5 × 12 months, or _____ months.

Complete.

1. 3 hours = _____ minutes

2. 2 years = _____ weeks

3. 6 days = _____ hours

4. 5 weeks = _____ days

5. 8 minutes = _____ seconds

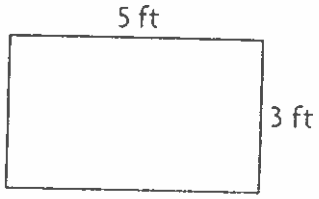
6. 7 years = _____ months

Name _____

Perimeter

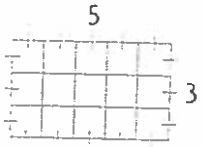
Perimeter is the distance around a shape. You can use grid paper to count the number of units around the outside of a rectangle to find its perimeter.

How many feet of ribbon are needed to go around the bulletin board?



Step 1 On grid paper, draw a rectangle that has a length of 5 units and a width of 3 units.

Step 2 Find the length of each side of the rectangle. Mark each unit of length as you count.



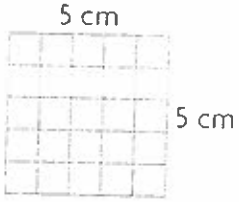
Step 3 Add the side lengths.

The perimeter is _____ feet.

So, _____ of ribbon are needed to go around the bulletin board.

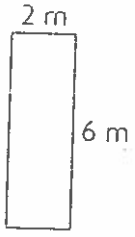
1. What is the perimeter of this square?

___ + ___ + ___ + ___ = ___ centimeters



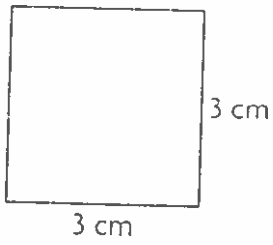
Find the perimeter of the rectangle or square.

2.



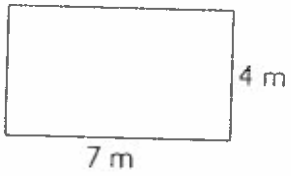
_____ meters

3.



_____ centimeters

4.

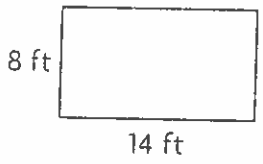


_____ meters

Name _____

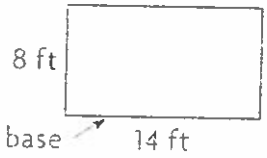
Area

Area is the measure of the number of **unit squares** needed to cover a surface. A unit square is a square with a side length of 1 unit. It has an area of 1 **square unit**.



Find the area of the rectangle at the right.

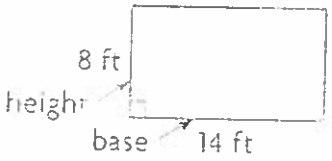
You can use the formula **Area = base × height**.



Step 1 Identify one side as the base.

The base is _____ feet.

Step 2 Identify a perpendicular side as the height.



The height is _____ feet.

Step 3 Use the formula to find the area.

Area = base × height

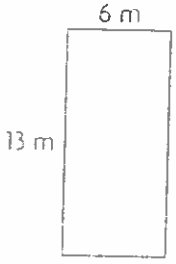
= ×

=

So, the area of the rectangle is square feet.

Find the area of the rectangle or square.

1.



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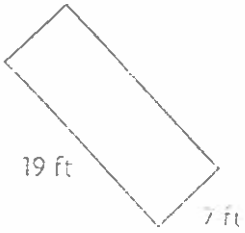

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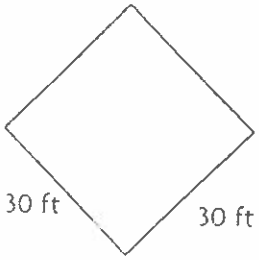

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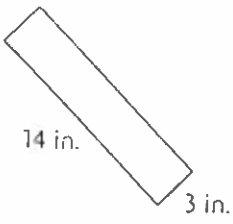


_____

Name _____

Add and Subtract Fractions

You can find and record the sums and the differences of fractions.

Add. $\frac{2}{6} + \frac{4}{6}$

Step 1 Model it.

Step 2 Think: How many sixths are there in all?

There are ____ sixths.

sixths = ____

Step 3 Record it.

Write the sum as an addition equation.

____ + ____ = ____

Subtract. $\frac{6}{10} - \frac{2}{10}$

Step 1 Model it.

Step 2 Think: There are 6 tenths. I take away 2 tenths. How many tenths are left?

There are ____ tenths left.

tenths = ____

Step 3 Record it.

Write the difference as a subtraction equation.

____ − ____ = ____

Find the sum or difference.

1. 7 eighth-size parts − 4 eighth-size parts = _____

$\frac{7}{8} - \frac{4}{8} =$ _____

2. $\frac{11}{12} - \frac{4}{12} =$ _____

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

4. $\frac{6}{8} - \frac{4}{8} =$ _____

5. $\frac{2}{4} + \frac{2}{4} =$ _____

6. $\frac{4}{5} - \frac{3}{5} =$ _____

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

Name _____

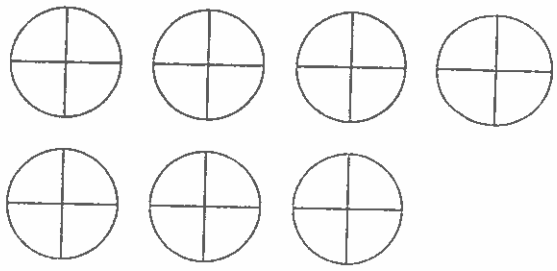
Add and Subtract Mixed Numbers

Find the sum. $3\frac{1}{4} + 2\frac{1}{4}$

Add the whole number and fraction parts.

- Add the whole numbers: $3 + 2 = 5$
- Add the fractions: $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$

Write the sum as a mixed number, so the fractional part is less than 1. $3\frac{1}{4} + 2\frac{1}{4} = 5\frac{2}{4}$

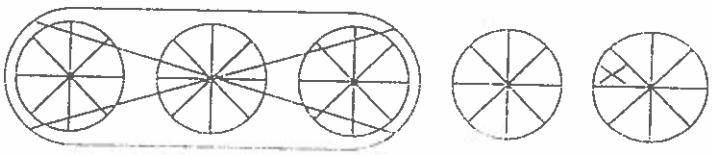


Find the difference. $4\frac{5}{8} - 3\frac{1}{8}$

Subtract the fraction and the whole number parts.

- Subtract the fractions: $\frac{5}{8} - \frac{1}{8} = \frac{4}{8}$
- Subtract the whole numbers: $4 - 3 = 1$

$4\frac{5}{8} - 3\frac{1}{8} = 1\frac{4}{8}$



Find the sum or difference.

1. $3\frac{4}{5} + 4\frac{3}{5}$

2. $7\frac{2}{3} - 3\frac{1}{3}$

3. $4\frac{7}{12} + 6\frac{5}{12}$

4. $12\frac{3}{4} - 6\frac{1}{4}$

5. $2\frac{3}{8} + 8\frac{1}{8}$

6. $11\frac{9}{10} - 3\frac{7}{10}$

7. $7\frac{3}{5} + 4\frac{3}{5}$

8. $8\frac{3}{6} - 3\frac{1}{6}$

Name ______________________

Multiply a Fraction by a Whole Number Using Models

You can use a model to multiply a fraction by a whole number.

Find the product of $4 \times \frac{3}{5}$.

Use fraction strips. Show 4 groups of $\frac{3}{5}$ each.

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

1 group of $\frac{3}{5} = \frac{}{5}$

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

2 groups of $\frac{3}{5} = \frac{}{5}$

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

3 groups of $\frac{3}{5} = \frac{}{5}$

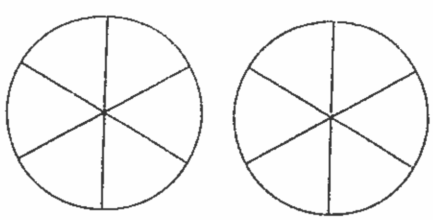
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

4 groups of $\frac{3}{5} = \frac{}{5}$

So, $4 \times \frac{3}{5} = \frac{12}{5}$.

Multiply.

1.



$2 \times \frac{5}{6} =$ ______

2.

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

$3 \times \frac{7}{8} =$ ______

3. $6 \times \frac{2}{3} =$ ______

4. $2 \times \frac{9}{10} =$ ______

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

6. $4 \times \frac{5}{8} =$ ______

7. $7 \times \frac{2}{5} =$ ______

8. $8 \times \frac{4}{6} =$ ______