

May, 2023

Dear Parents/Guardians,

The attached math enrichment packet is meant to provide your child with a review of the skills she learned in 4th grade. Your child is expected to to turn the completed packet in to her 5th grade teacher on the first day of the 2023-2024 school year. Please encourage your child to schedule time throughout the summer to work on the packet; do not wait until the end of summer to begin.

Reminders for your child:

- Read and follow all directions.
- Show work for ANY/ALL problems in an organized manner and number each problem to receive full credit.

Have a great summer!

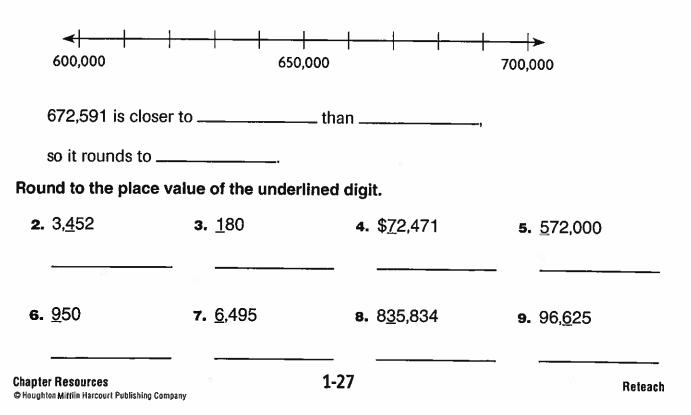
Sincerely,

Mrs. Marking

Round Numbers

When you round a number, you replace it with a number that is easier to work with but not as exact. You can round numbers to different place values. **Round <u>478,456</u> to the place value of the underlined digit. Step 1** Identify the underlined digit. The underlined digit, 4, is in the <u>hundred thousands place</u>. **Step 2** Look at the number to the right of the underlined digit. If that number is 0–4, the underlined digit stays the same. If that number is 5–9, the underlined digit is increased by 1. The number to the right of the underlined digit is <u>7</u>, so the underlined digit, 4, will be increased by one; 4 + 1 = 5. **Step 3** Change all the digits to the right of the hundred thousands place to zeros. So, 478,456 rounded to the nearest hundred thousand is <u>500,000</u>.

 In 2010, the population of North Dakota was 672,591 people. Use the number line to round this number to the nearest hundred thousand.



Subtract Whole Numbers

Find the difference. 5,128 - 3,956

Estimate first.

Think: 5,128 is close to 5,000. 3,956 is close to 4,000. So, an estimate is 5,000 - 4,000 = 1,000.

Write the problem vertically. Use grid paper to align digits by place value.

Step 1 Subtract the ones.	5, 1 2 8 - 3, 9 5 6 - 2 2	8 - 6 = 2
Step 2 Subtract the tens.	0 12 5, X 2 8 - 3, 9 5 6 7 2 2	There are not enough tens to subtract. Regroup 1 hundred as 10 tens. 12 tens -5 tens = 7 tens
Step 3 Subtract the hundreds.	4 10 12 5', 4' 2 8 - 3, 9 5 6 I 7 2	There are not enough hundreds to subtract. Regroup 1 thousand as 10 hundreds. 10 hundreds – 9 hundreds = 1 hundred
Step 4 Subtract the thousands.	4 10 12 5, X 2 8 - 3, 9 5 6 1, 1 7 2	4 thousands – 3 thousands = 1 thousand
The difference is <u>1,172</u> . Since 1,172 is close to the estimate of 1,000, the answer is reasonable.		

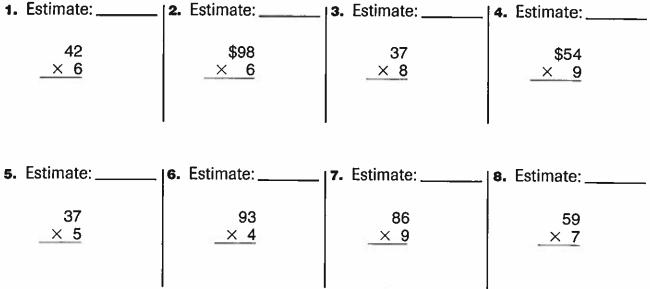
Estimate. Then find the difference.

1. Estimate:	2. Estimate:	3. Estimate:
6,253	74,529	232,318
<u>- 3,718</u>	<u>- 38,453</u>	<u>- 126,705</u>

Multiply 2-Digit Numbers with Regrouping

Use place value to multiply with regrouping.	
Multiply. 7 $ imes$ 63	
Step 1 Estimate the product.	$7 \times 60 = 420$
Step 2 Multiply the ones. Regroup 21 ones as 2 tens 1 one. Record the 1 one below the ones column and the 2 tens above the tens column. 7×3 ones = 21 ones Step 3 Multiply the tens. Then, add the regrouped tens. Record the tens.	$\frac{\overset{2}{63}}{\overset{2}{53}}$ $\frac{\overset{2}{53}}{\overset{2}{53}}$ $\frac{\times 7}{44} \text{ tens} = 4 \text{ hundreds}$
7×6 tens = 42 tens	441 4 tens
Add the 2 regrouped tens.	
42 tens + 2 tens = 44 tens	
So, $7 \times 63 = 441$. Since 441 is close to the estim	nate of 420, it is reasonable.

Estimate. Then record the product.



Multiply 3-Digit and 4-Digit Numbers with Regrouping

When you multiply 3-digit and 4-digit numbers, you may need to regroup.		
Estimate. Then find the product. \$1 \times	,324 7	
Step 1 Estimate the product. \$1,3	24 rounds to \$1,000; \$1,000 \times 7 = \$7,000.	
Step 2 Multiply the 4 ones by 7. Regroup the 28 ones as 2 tens 8 ones.	$\frac{\$1,324}{\times 7}$ 8	
Step 3 Multiply the 2 tens by 7. Add the regrouped tens. Regroup the 16 tens as 1 hundred 6 tens.		
Step 4 Multiply the 3 hundreds by 7. Add the regrouped hundred. Regroup the 22 hundreds as 2 thousands 2 hundreds.		
Step 5 Multiply the 1 thousand by 7. Add the regrouped thousands.	$ \begin{array}{r} ^{2 12} \\ \$1,324 \\ \times 7 \\ \$9,268 \end{array} $	
So, $7 \times $1,324 = $9,268$. Since \$9,268 is close to the estimate of \$7,0	00, the answer is reasonable .	

Estimate. Then find the product.

1. Estimate:	2. Estimate:	3. Estimate:	4. Estimate:
3,184	\$828	2,637	\$6,900
× 2	× 4	× 5	× 7

Multiply with Regrouping

Estima	ite. Then use regrouping to find 28	× 43.
Step 1	Round to estimate the product.	30 × 40 = 1,200
Step 2	Think: $28 = 2$ tens 8 ones. Multiply 43 by 8 ones. $8 \times 3 = 24$. Record the 4. Write the regrouped 2 above the tens place. $8 \times 40 = 320$. Add the regrouped tens: $320 + 20 = 340$.	$\begin{array}{c} \cancel{43} \\ \times \underline{28} \\ 344 \end{array} \longleftarrow 8 \times 43 \end{array}$
Step 3	Multiply 43 by 2 tens. $20 \times 3 = 60$ and $20 \times 40 = 800$. Record 860 below 344.	$\begin{array}{c} 2 \\ 43 \\ \times 28 \\ 344 \\ 860 \end{array} \leftarrow 20 \times 43 \end{array}$
Step 4	Add the partial products.	1,204 - 344 + 860
So, 28	× 43 = <u>1,204</u> . 1,204 is close to 1,2	200. The answer is reasonable.

Estimate. Then find the product.

1. Estimate:	2. Estimate:	3. Estimate:
36	43	51
<u>× 12</u>	<u>× 29</u>	<u>× 47</u>

Divide by 1-Digit Numbers

Divide. 766 ÷ 6 =	
Step 1 Use place value to place the first digit. Think: 7 hundreds can be shared among 6 groups without regrouping.	1
Step 2 There is $6)766$ 1 hundred left over. Regroup 1 hundred, now there are 16 tens. Divide the tens.	$\begin{array}{r} 12 \\ \hline 6)766 \\ \hline -6 \\ \hline 16 \\ \hline -12 \\ \hline 4 \end{array} Multiply. 6 \times 2 tens \\ \hline \end{array}$
Step 3 There are 12 4 tens left over. -6 Regroup 4 tens, now 16 there are 46 ones. -12 Divide the ones. 46	$127 \leftarrow \text{Divide 46 ones by 6.}$ $6)766$ -6 16 -12 46 $-42 \leftarrow \text{Multiply. 6 × 7 ones}$
Step 4 Check to make sure that the remainder is less than the divisor. Write the answer.	$4 \leftarrow$ Subtract. $\frac{127}{6}$ r4 $4 < 6$ $\frac{6}{766}$
Step 5 Use multiplication and addition to check your answer.	$127 \longleftarrow \text{quotient} \\ \times 6 \longleftarrow \text{divisor} \\ \hline 762 \\ + 4 \longleftarrow \text{remainder} \\ \hline 766 \longleftarrow \text{dividend} \\ \hline \end{array}$

Divide and check.

1. 4)868

2. 2)657

3. 7) 8,473

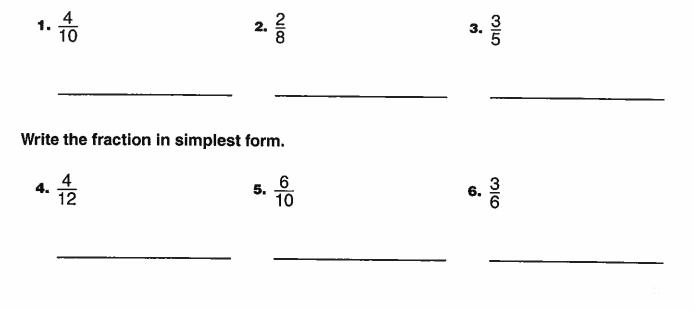
Factors and Multiples

You know that 1	\times 10 = <u>10</u> and 2 \times	5 = <u>10</u> .	
So, 1, 2, 5, and 10 are all factors of <u>10</u> .			
You can skip cou	nt to find multiples	of a number:	
Count by 1s: 1, 2	, 3, 4, 5, 6, 7, 8, 9, [.]	10,	
Count by 2s: 2, 4	, 6, 8, 10, 12,		
Count by 5s: 5, 1	0, 15, 20, 25,		
Count by 10s: 10,	20, 30, 40,		
Note that 10 is a all of its factors.	multiple of 1, 2, 5, a	and 10. A number is a mu	ultiple of
A common mult common multiple	i ple is a multiple of of 1, 2, 5, and 10.	two or more numbers. S	o, 10 is a
3	the next five multi ,,,, the next five multi ,,,,		
Is the number a fa	ctor of 8? Write ye	es or no.	
3. 2	4. 8	5. 15	6. 20
	26 	i	
is the number a m	ultiple of 4? Write	yes or no.	
7. 2	8. 12	9. 16	10. 18

Simplest Form

A fraction is in simplest form when 1 is the numerator and denominator have in commor		
Tell whether the fraction $\frac{7}{8}$ is in simplest form.		
Look for common factors in the numerator ar	nd the denominator.	
Step 1 The numerator of $\frac{7}{8}$ is 7. List all the factors of 7.	1 × 7 = 7	
	The factors of 7 are 1 and 7.	
Step 2 The denominator of $\frac{7}{8}$ is 8. List all the factors of 8.	$1 \times 8 = 8$ 2 × 4 = 8	
	The factors of 8 are 1, 2, 4, and 8.	
Step 3 Check if the numerator and denominator of $\frac{7}{8}$ have any common factors greater than 1.	The only common factor of 7 and 8 is 1.	
So, $\frac{7}{8}$ is in simplest form.		

Tell whether the fraction is in simplest form. Write yes or no.



Common Denominators

A **common denominator** is a common multiple of the denominators of two or more fractions.

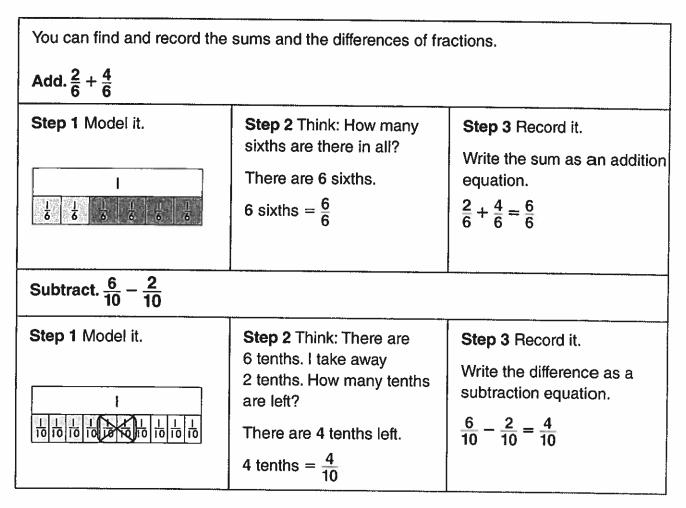
Write $\frac{2}{3}$ and $\frac{3}{4}$ as a pair of fractions with common denominators.

Step 1 Identify the denominators of $\frac{2}{3}$ and $\frac{3}{4}$.	$\frac{2}{3}$ and $\frac{3}{4}$ The denominators are 3 and 4.
Step 2 List multiples of 3 and 4. Circle common multiples.	3: 3, 6, 9, <u>12</u> , <u>15</u> , <u>18</u> 4: 4, 8, <u>12</u> , <u>16</u> , <u>20</u> <u>12</u> is a common multiple of 3 and 4.
Step 3 Rewrite $\frac{2}{3}$ as a fraction with a denominator of 12.	$\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$
Step 4 Rewrite $\frac{3}{4}$ as a fraction with a denominator of 12.	$\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$
So, you can rewrite $\frac{2}{3}$ and $\frac{3}{4}$ as $\frac{8}{12}$ and $\frac{9}{12}$.	·

Write the pair of fractions as a pair of fractions with a common denominator.

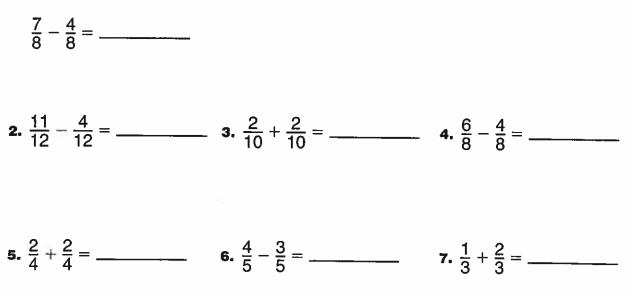
1. $\frac{1}{2}$ and $\frac{1}{3}$	2. $\frac{2}{4}$ and $\frac{5}{8}$
3. $\frac{1}{2}$ and $\frac{3}{5}$	4. $\frac{1}{4}$ and $\frac{5}{6}$
5. $\frac{2}{5}$ and $\frac{2}{3}$	6. $\frac{4}{5}$ and $\frac{7}{10}$

Add and Subtract Fractions



Find the sum or difference.

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

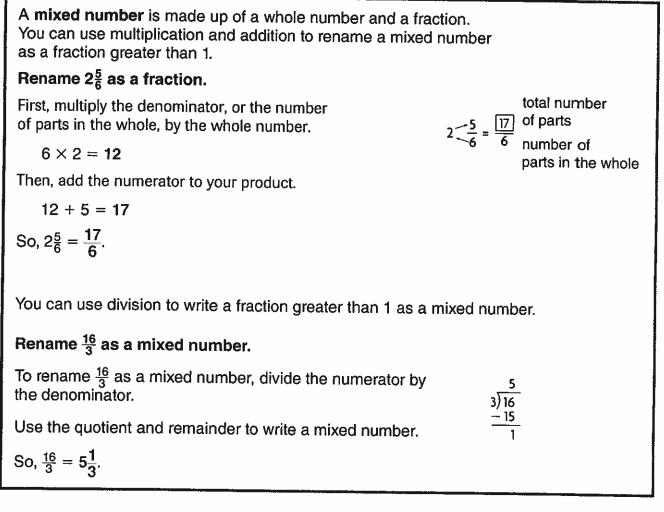


Reteach

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Lesson 7.6 Reteach

Rename Fractions and Mixed Numbers



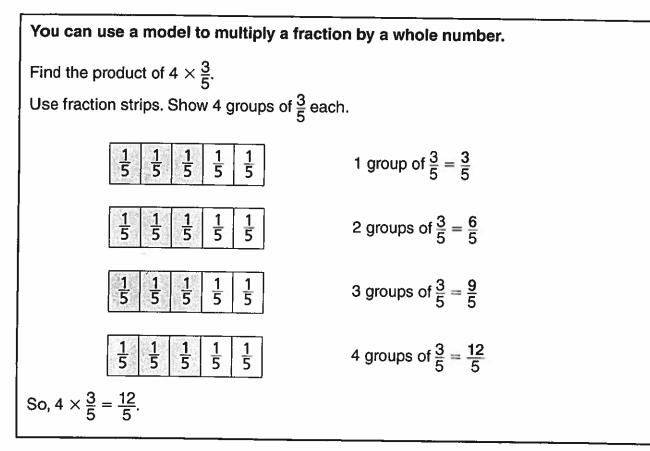
Write the mixed number as a fraction.

1.
$$3\frac{2}{3} =$$
 2. $4\frac{3}{5} =$ **3.** $4\frac{3}{8} =$ **4.** $2\frac{1}{6} =$

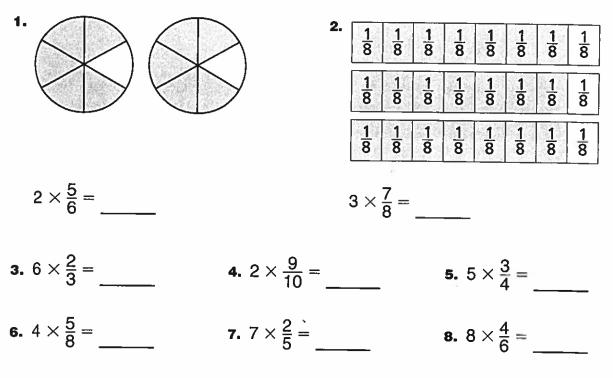
Write the fraction as a mixed number.

5.
$$\frac{32}{5} =$$
 6. $\frac{19}{3} =$ **7.** $\frac{15}{4} =$ **8.** $\frac{51}{10} =$

Multiply a Fraction by a Whole Number Using Models



Multiply.



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Reteach

Equivalent Fractions and Decimals

Lori ran $\frac{20}{100}$ mile. How many tenths of a mile did she run?							
Write $\frac{20}{100}$ as an equivalent fraction with a denominator of 10.							
Step 1	Think: 10 is a common factor of the numerator and the denominator.						
Step 2	Divide the numerator and denominator by 10.						
	$\frac{20}{100} = \frac{20 \div 10}{100 \div 10} = \frac{2}{10}$						
So, Lori ran <u>2</u> mile.							
Use a place-value chart.							
Step 1 Write $\frac{20}{100}$ as an equivalent decimal.							
Ones	•	Tenths	Hundredths				
0	•	2	0				
Step 2 Think: 20 hundredths is _2 tenths _0 hundredths							
Ones		Tenths					
0		2					
So, Lori ran 0.2 mile.							

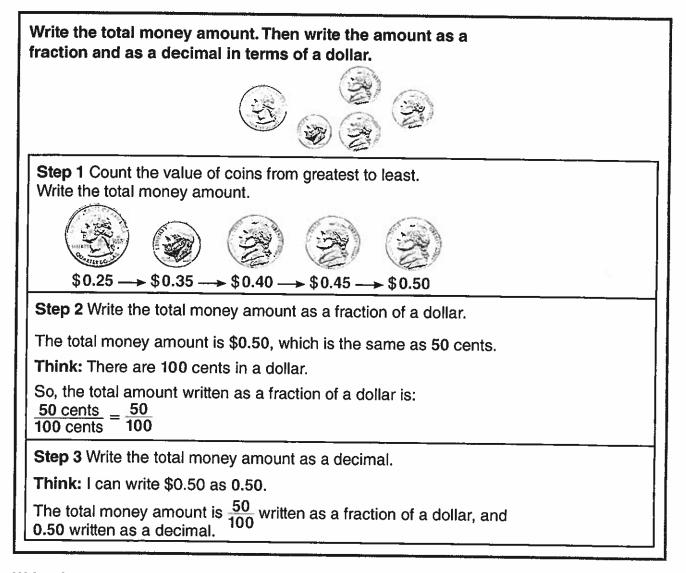
Write the number as hundredths in fraction form and decimal form.

1. $\frac{9}{10}$ **2.** 0.6 **3.** $\frac{4}{10}$

Write the number as tenths in fraction form and decimal form.

4. $\frac{70}{100}$ **5.** $\frac{80}{100}$ **6.** 0.50

Relate Fractions, Decimals, and Money



Write the total money amount. Then write the amount as a fraction or a mixed number and as a decimal in terms of a dollar.







2

Lines, Rays, and Angles

Name	What it looks like	Think	
point D	D.	A point names a location in space.	
line AB; ĀB line BA; BA	A B	A line continues without end in both directions.	
line segment <i>AB;</i> AB line segment <i>BA;</i> BA	A B	"Segment" means part. A line segment is part of a line. It is named by its two endpoints.	
ray MN; MN ray NM; NM	M N M N	A ray has one endpoint and continues without end in one direction. A ray is named using two points. The endpoint is always named first.	
angle XYZ; $\angle XYZ$ angle ZYX; $\angle ZYX$ angle Y; $\angle Y$	X X X X X X X X X X X X X X X X X X X	Two rays or line segments that share an endpoint form an angle. The shared point is the vertex of the angle.	
A right angle forms a square corner.	An acute angle is less than a right angle.	An obtuse angle is greater than a right angle and less than a straight angle. A straight angle forms a line.	

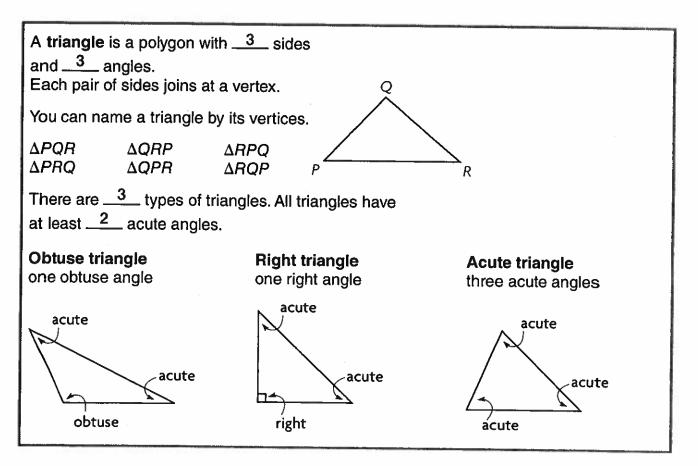
Draw and label an example of the figure.

1. <u>PQ</u>

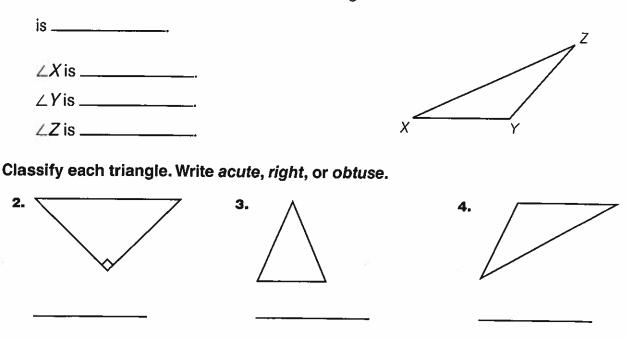
2. *KJ*

3. obtuse ∠*FGH*

Classify Triangles by Angles



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



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 12 paper clips.						
Step 3 Compare the size of 1 inch to the size of 1 foot.						
There are 12 inches in 1 foot.						
So, 1 foot is <u>12</u> times as long as 1 inch.						
Complete.						
1. 5 feet = inches 2. 3 yards = feet						

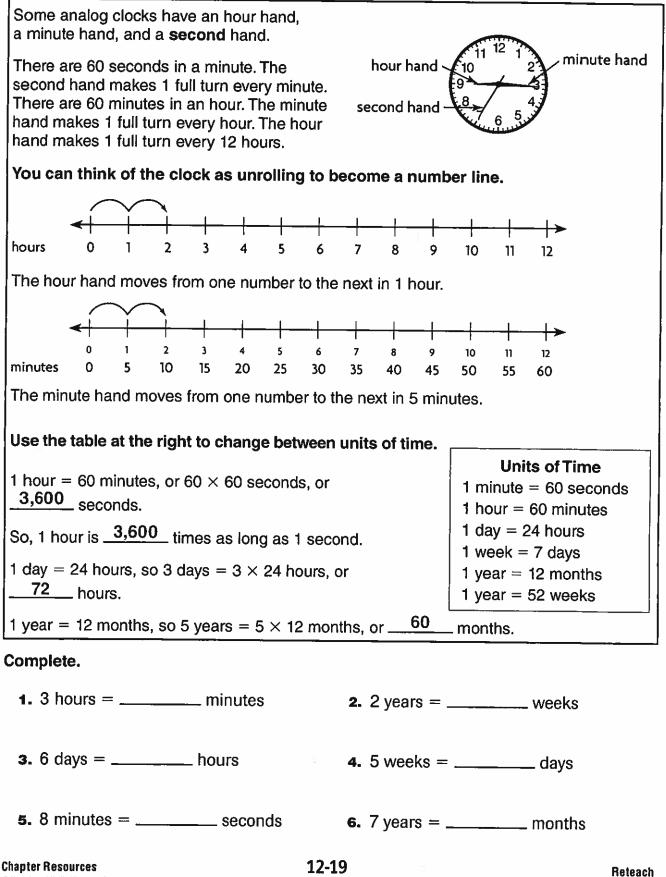
3. 5 yards = _____ feet

4. 4 feet =	inches
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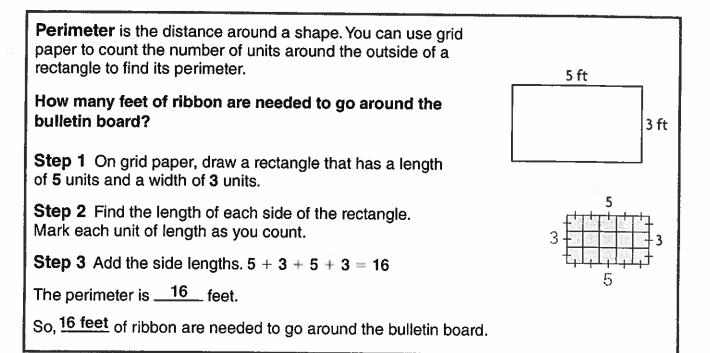
5. 6 feet = _____ inches

6. 8 yards = _____ feet

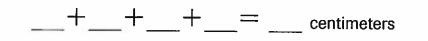
Units of Time

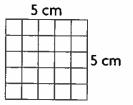


Perimeter

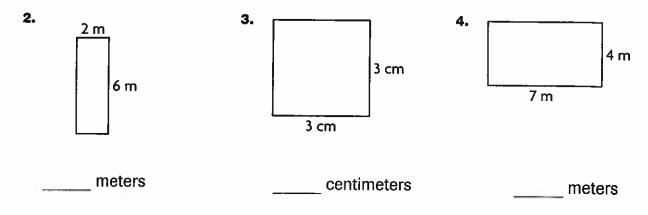


1. What is the perimeter of this square?



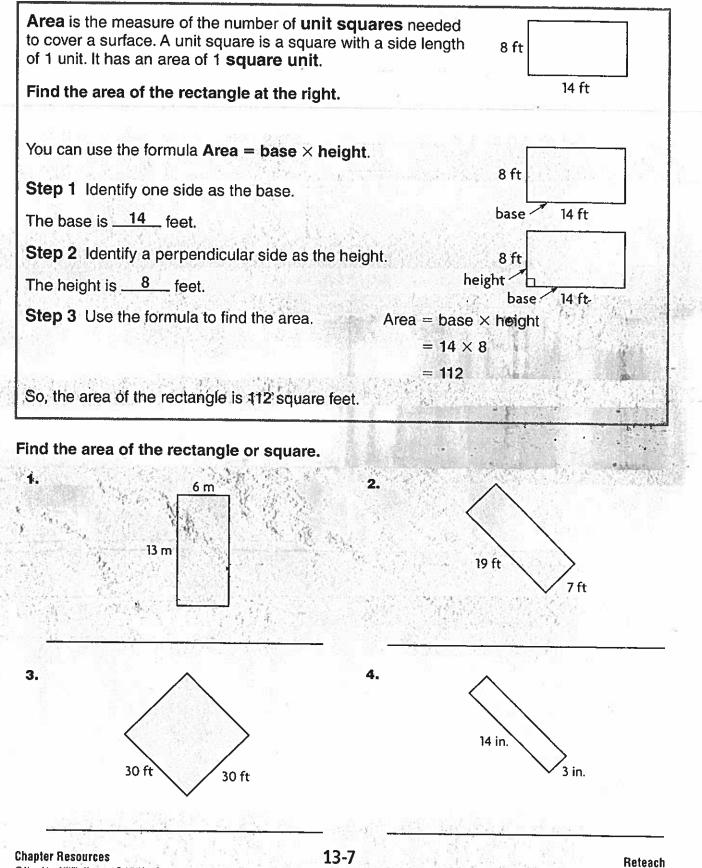


Find the perimeter of the rectangle or square.



Lesson 13.2 Reteach

Area



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