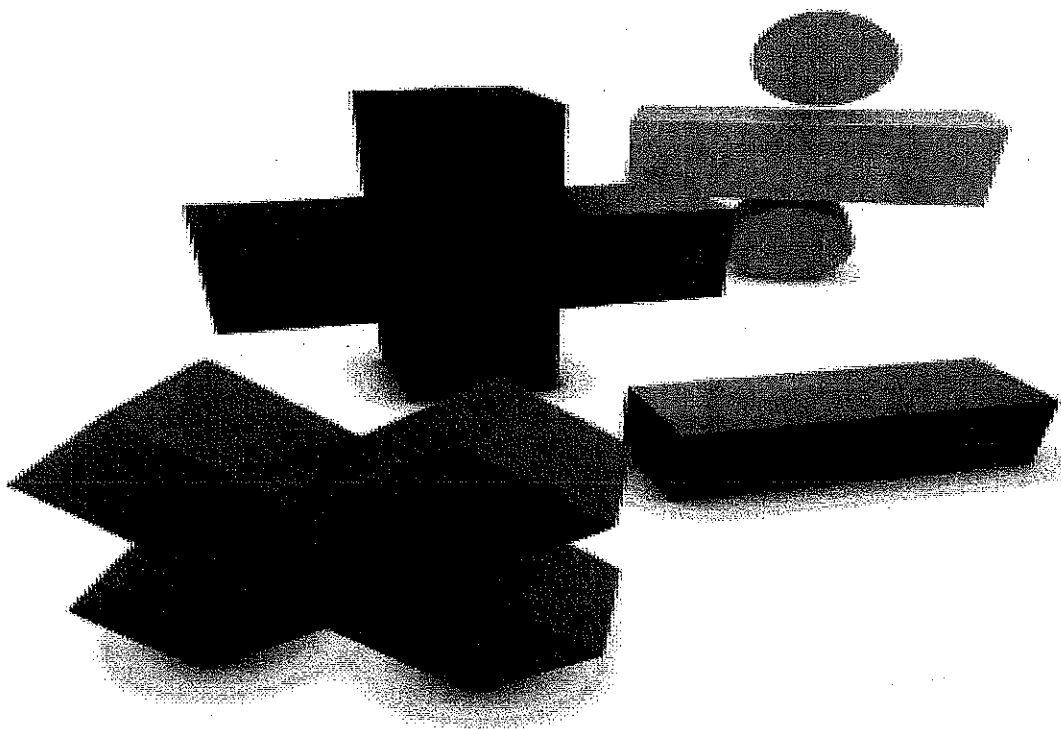


Getting Ready

For

Fifth Grade



Name _____

Name _____

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 478,456 to the place value of the underlined digit.

Step 1 Identify the underlined digit.

The underlined digit, 4, is in the hundred thousands place.

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.

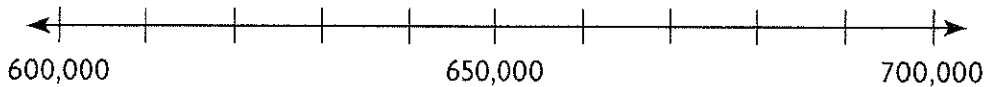
If that number is 5–9, the underlined digit is increased by 1.

The number to the right of the underlined digit is 7, so the underlined digit, 4, will be increased by one; $4 + 1 = \underline{5}$.

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 500,000.

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



672,591 is closer to _____ than _____,

so it rounds to _____.

Round to the place value of the underlined digit.

2. 3,452

3. 180

4. \$72,471

5. 572,000

6. 950

7. 6,495

8. 835,834

9. 96,625

Name _____

Add Whole Numbers

Find the sum. $63,821 + 34,765$

Step 1 Round each addend to estimate.

$$60,000 + 30,000 = \underline{90,000}$$

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

	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	6	3,	8	2	1	
+	3	4,	7	6	5	
	9	8,	5	8	6	

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

The sum is 98,586. 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: _____

$$\begin{array}{r} 52,851 \\ + 65,601 \\ \hline \end{array}$$

3. Estimate: _____

$$\begin{array}{r} 54,980 \\ + 24,611 \\ \hline \end{array}$$

4. Estimate: _____

$$\begin{array}{r} 604,542 \\ + 87,106 \\ \hline \end{array}$$

5. Estimate: _____

$$\begin{array}{r} 147,026 \\ + 106,792 \\ \hline \end{array}$$

6. Estimate: _____

$$\begin{array}{r} 278,309 \\ + 422,182 \\ \hline \end{array}$$

7. Estimate: _____

$$\begin{array}{r} 540,721 \\ + 375,899 \\ \hline \end{array}$$

Name _____

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	

$$8 - 6 = 2$$

Step 2 Subtract the tens.

		0	12		
	5	1	2	8	
-	3	9	5	6	
			7	2	

There are not enough tens to subtract. Regroup 1 hundred as 10 tens. $12 \text{ tens} - 5 \text{ tens} = 7 \text{ tens}$

Step 3 Subtract the hundreds.

	4	¹⁰ 0	12		
	5	1	2	8	
-	3	9	5	6	
		1	7	2	

There are not enough hundreds to subtract. Regroup 1 thousand as 10 hundreds. $10 \text{ hundreds} - 9 \text{ hundreds} = 1 \text{ hundred}$

Step 4 Subtract the thousands.

	4	¹⁰ 0	12		
	5	1	2	8	
-	3	9	5	6	
	1	1	7	2	

$4 \text{ thousands} - 3 \text{ thousands} = 1 \text{ thousand}$

The difference is 1,172. 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: _____

$$\begin{array}{r} 6,253 \\ - 3,718 \\ \hline \end{array}$$

$$\begin{array}{r} 74,529 \\ - 38,453 \\ \hline \end{array}$$

$$\begin{array}{r} 232,318 \\ - 126,705 \\ \hline \end{array}$$

Name _____

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.

$$\begin{array}{r} \$1,324 \\ \times \quad 7 \\ \hline \end{array}$$

Step 1 Estimate the product.

\$1,324 rounds to \$1,000; $\$1,000 \times 7 = \$7,000$.

Step 2 Multiply the 4 ones by 7.

$$\begin{array}{r} 1,324 \\ \\ \times ,24 \\ ,24 \\ \hline ,28 \end{array}$$

Regroup the 28 ones as 2 tens 8 ones.

Step 3 Multiply the 2 tens by 7.

$$\begin{array}{r} 1,324 \\ \\ \times ,24 \\ ,24 \\ ,28 \\ \hline ,68 \end{array}$$

Add the regrouped tens.

Regroup the 16 tens as 1 hundred 6 tens.

Step 4 Multiply the 3 hundreds by 7.

$$\begin{array}{r} 1,324 \\ \\ \times ,24 \\ ,24 \\ ,28 \\ ,68 \\ \hline ,8 \end{array}$$

Add the regrouped hundred.

Regroup the 22 hundreds as 2 thousands 2 hundreds.

Step 5 Multiply the 1 thousand by 7.

$$\begin{array}{r} 1,324 \\ \\ \times ,24 \\ ,24 \\ ,28 \\ ,68 \\ ,8 \\ \hline ,68 \end{array}$$

Add the regrouped thousands.

So, $7 \times \$1,324 = \$9,268$.

Since \$9,268 is close to the estimate of \$7,000, the answer is **reasonable**.

Estimate. Then find the product.

1. Estimate: _____ 2. Estimate: _____ 3. Estimate: _____ 4. Estimate: _____

$$\begin{array}{r} 3,184 \\ \times \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \$828 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2,637 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \$6,900 \\ \times \quad 7 \\ \hline \end{array}$$

Multiply with Regrouping

Estimate. Then use regrouping to find 28×43 .

Step 1 Round to estimate the product. $30 \times 40 = 1,200$

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: $320 + 20 = 340$.

$$\begin{array}{r} \cancel{2} \\ 43 \\ \times 28 \\ \hline 344 \end{array} \longleftarrow 8 \times 43$$

Step 3 Multiply 43 by 2 tens.
 $20 \times 3 = 60$ and $20 \times 40 = 800$.
Record 860 below 344.

$$\begin{array}{r} \cancel{2} \\ 43 \\ \times 28 \\ \hline 344 \\ 860 \end{array} \longleftarrow 20 \times 43$$

Step 4 Add the partial products.

$$1,204 \longleftarrow 344 + 860$$

So, $28 \times 43 = \underline{1,204}$. 1,204 is close to 1,200. The answer is reasonable.

Estimate. Then find the product.

1. Estimate: _____

2. Estimate: _____

3. Estimate: _____

$$\begin{array}{r} 36 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 29 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ \times 47 \\ \hline \end{array}$$

Name _____


Festive Factors

Ms. Ramirez is a professional party planner. One of her tasks is to arrange the seating at tables. Ms. Ramirez likes to have the same number of party guests seated at each table.

For each number of guests below, use factors to determine all the ways Ms. Ramirez can arrange tables and chairs to have the same number of guests at each table. You do not have to include the factor 1 and the number itself.

1. 24 guests

2. 56 guests

3.  **Write Math** Two factors that make a product are sometimes called a factor pair. Describe how using factor pairs helped you solve the problems.

Name _____

Prime Search

All the prime numbers from 1 to 100 are listed below.


2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

1. Find the prime numbers from 101 to 200.

- First draw a line through all the multiples of 2.
- Then draw a line through all the multiples of 3, then all the multiples of 5, and continue until you have drawn lines through all the multiples of prime numbers less than 100.
- The remaining numbers are the prime numbers from 101 to 200. List these below the table.

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200




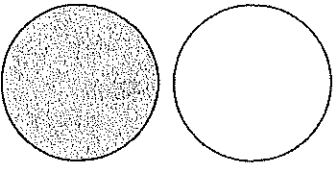

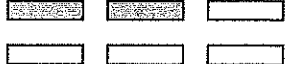
2. The number 143 has two lines through it, first as a multiple of 11 and second as a multiple of 13; so, 143 is the product of two prime numbers. Find another number that is the product of two different prime numbers greater than 7.
- _____
- _____
- _____

3.  **Write Math** Explain how you can find all the prime numbers from 201 to 1,000.
- _____
- _____
- _____
- _____

Name _____

Equivalent Art

Write the fraction represented by the shaded part of each design.
Then write 3 fractions that are equivalent to that fraction.

<p>1. </p> <p>Fraction represented by the shaded part of the design:</p> <p>_____</p> <p>Three equivalent fractions:</p> <p>_____</p>	<p>2. </p> <p>Fraction represented by the shaded part of the design:</p> <p>_____</p> <p>Three equivalent fractions:</p> <p>_____</p>	<p>3. </p> <p>Fraction represented by the shaded part of the design:</p> <p>_____</p> <p>Three equivalent fractions:</p> <p>_____</p>
<p>4. </p> <p>Fraction represented by the shaded part of the design:</p> <p>_____</p> <p>Three equivalent fractions:</p> <p>_____</p>	<p>5. </p> <p>Fraction represented by the shaded part of the design:</p> <p>_____</p> <p>Three equivalent fractions:</p> <p>_____</p>	<p>6. </p> <p>Fraction represented by the shaded part of the design:</p> <p>_____</p> <p>Three equivalent fractions:</p> <p>_____</p>

7. **Stretch Your Thinking** There is a relationship between the shaded part of each design and the unshaded part. Describe this relationship.

Name _____

Simplest Form

A fraction is in **simplest form** when 1 is the only factor that the numerator and denominator have in common.

Tell whether the fraction $\frac{7}{8}$ is in simplest form.

Look for common factors in the numerator and the denominator.

<p>Step 1 The numerator of $\frac{7}{8}$ is 7. List all the factors of 7.</p>	$1 \times 7 = 7$ The factors of 7 are 1 and 7.
<p>Step 2 The denominator of $\frac{7}{8}$ is 8. List all the factors of 8.</p>	$1 \times 8 = 8$ $2 \times 4 = 8$ The factors of 8 are 1, 2, 4, and 8.
<p>Step 3 Check if the numerator and denominator of $\frac{7}{8}$ have any common factors greater than 1.</p>	The only common factor of 7 and 8 is 1.
<p>So, $\frac{7}{8}$ is in simplest form.</p>	

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

1. $\frac{4}{10}$

2. $\frac{2}{8}$

3. $\frac{3}{5}$

Write the fraction in simplest form.

4. $\frac{4}{12}$

5. $\frac{6}{10}$

6. $\frac{3}{6}$

Name _____

Mixed-Up Sums

Match each fraction on the left with an addition problem on the right.

1. $\frac{7}{8}$

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

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

$$\frac{2}{10} + \frac{2}{10} + \frac{2}{10}$$

3. $\frac{4}{8}$

$$\frac{1}{10} + \frac{3}{10} + \frac{2}{10} + \frac{3}{10}$$

4. $\frac{9}{10}$

$$\frac{1}{8} + \frac{5}{8} + \frac{1}{8}$$

5. $\frac{6}{8}$

$$\frac{1}{10} + \frac{3}{10} + \frac{2}{10} + \frac{1}{10}$$

6. $\frac{7}{10}$

$$\frac{1}{8} + \frac{1}{8} + \frac{2}{8}$$

7. **Stretch Your Thinking** Write another possible sum for Exercise 4.

8. **Stretch Your Thinking** Write another possible sum for Exercise 5. Use $\frac{1}{4}$ for one of the addends. Explain how you found your answer.

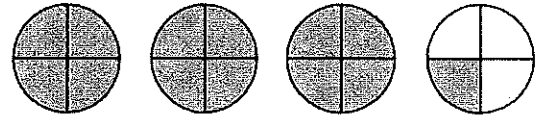
Name _____

Add and Subtract Mixed Numbers

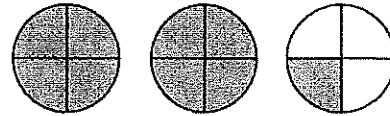
Find the sum. $3\frac{1}{4} + 2\frac{1}{4}$

Add the whole number and fraction parts.

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



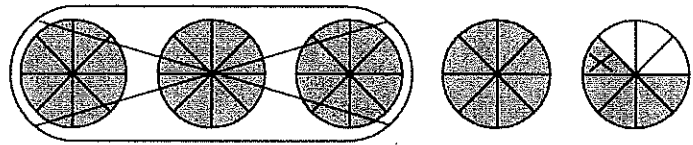
Write the sum as a mixed number, so the fractional part is less than 1. $3\frac{1}{4} + 2\frac{1}{4} = 5\frac{2}{4}$



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.

$$\begin{array}{r} 1. \quad 3\frac{4}{5} \\ + 4\frac{3}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 7\frac{2}{3} \\ - 3\frac{1}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 4\frac{7}{12} \\ + 6\frac{5}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 12\frac{3}{4} \\ - 6\frac{1}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 2\frac{3}{8} \\ + 8\frac{1}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 11\frac{9}{10} \\ - 3\frac{7}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 7\frac{3}{5} \\ + 4\frac{3}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 8\frac{3}{6} \\ - 3\frac{1}{6} \\ \hline \end{array}$$

Name _____

Fraction of a Whole Number

Find the product. Write the product as a whole number.

1. $\frac{1}{8} \times 24 =$

2. $\frac{2}{3} \times 15 =$

3. $\frac{3}{5} \times 10 =$

4. $\frac{4}{7} \times 14 =$

5. $\frac{5}{6} \times 18 =$

6. $\frac{3}{4} \times 16 =$

7. $\frac{2}{9} \times 27 =$

8. $\frac{7}{8} \times 32 =$

9. $\frac{9}{10} \times 50 =$

10. $\frac{4}{5} \times 45 =$

11. $\frac{5}{12} \times 60 =$

12. $\frac{8}{9} \times 54 =$

13. **Write Math** Explain how you can tell if the product of a fraction and a whole number will be a whole number.

Name _____

Multiply a Fraction or Mixed Number by a Whole Number

To multiply a fraction by a whole number, multiply the numerators. Then multiply the denominators.

A recipe for one loaf of bread calls for $2\frac{1}{4}$ cups of flour. How many cups of flour will you need for 2 loaves of bread?

Step 1 Write and solve an equation.

$$\begin{aligned}
 2 \times 2\frac{1}{4} &= \frac{2}{1} \times \frac{9}{4} && \text{Write 2 as } \frac{2}{1}. \text{ Write } 2\frac{1}{4} \text{ as a fraction.} \\
 &= \frac{2 \times 9}{1 \times 4} && \text{Multiply the numerators.} \\
 &= \frac{18}{4} && \text{Then multiply the denominators.} \\
 & && \text{Simplify.}
 \end{aligned}$$

Step 2 Write the product as a mixed number.

$$\begin{aligned}
 \frac{18}{4} &= \underbrace{\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}}_1 + \underbrace{\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}}_1 + \underbrace{\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}}_1 + \underbrace{\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}}_1 + \frac{1}{4} + \frac{1}{4} \\
 &= 4 + \frac{1}{4} + \frac{1}{4} && \text{Combine the wholes. Then combine the remaining parts.} \\
 &= \frac{4\cancel{2}}{\cancel{4}}, \text{ or } 4\frac{1}{2} && \text{Add. Write the sum as a mixed number.}
 \end{aligned}$$

So, you will need $4\frac{1}{2}$ cups of flour.

Multiply. Write the product as a mixed number.

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

2. $4 \times \frac{3}{8} =$ _____

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

4. $2 \times 1\frac{3}{10} =$ _____

5. $4 \times 1\frac{2}{3} =$ _____

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

Name _____

Matching Fractions and Decimals

Match each fraction or decimal in Column A with an equivalent fraction or decimal in Column B.

Column A

Column B

$$\frac{2}{5}$$

$$0.72$$

$$0.65$$

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

$$\frac{18}{25}$$

$$0.05$$

$$\frac{9}{20}$$

$$\frac{3}{5}$$

$$0.5$$

$$0.45$$

$$0.20$$

$$0.4$$

$$\frac{3}{25}$$

$$0.75$$

$$\frac{3}{4}$$

$$\frac{13}{20}$$

$$0.6$$

$$\frac{1}{2}$$

$$\frac{1}{20}$$

$$0.12$$



Explain how you found the match for $\frac{9}{20}$.

Name _____

School Store

You are the cashier at the school store. Find how much change each customer should receive.

1. 1 notebook: \$0.70
1 pencil: \$0.15

The student pays with a \$1 bill.

2. 1 pen: \$0.75
1 highlighter: \$0.40
1 eraser: \$0.25


The student pays with a \$5 bill.

3. 2 notebooks: \$0.85 each
1 glue stick: \$0.90
1 sheet of stickers: \$0.28

The student pays with a \$5 bill.

4. 1 writing tablet: \$1.30
3 pencils: \$0.18 each
2 pens: \$1.07 each

The student pays with a \$10 bill.

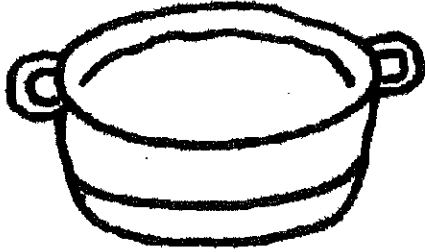
5.  **Write Math** Explain how you found the correct change for the customer in Exercise 3.

Name _____

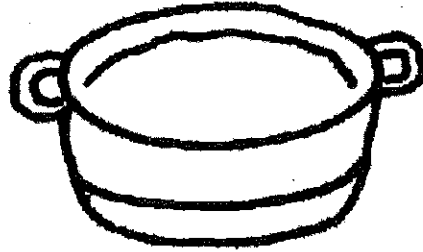
Alphabet Soup

Use all 26 capital letters of the alphabet. Place them into as many "soups" as possible.

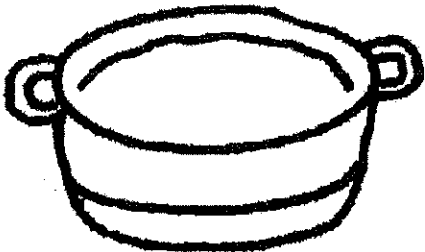
1. Letters with parallel line segments



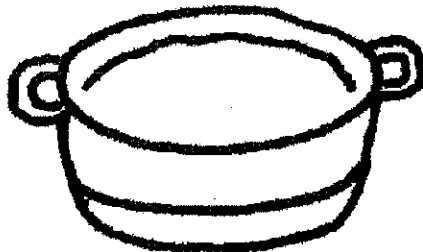
2. Letters with perpendicular line segments



3. Letters with intersecting, but not perpendicular, line segments



4. Letters with no parallel, perpendicular, or intersecting line segments



Name _____

Unknown Measures

In Exercises 1–4, three angles join to form a straight angle.
Use the information given to find the measure of each angle.

1. One angle is a right angle. Give three pairs of possible measures for the other two angles.

2. One angle measures 40° . The other two angles have the same measure. What is the measure of each angle?

3. All three angles have the same measure. What is the measure of each angle?

4. One angle measures 30° . The measure of the second angle is 2 times as large as the measure of the third angle. What are the measures of the other two angles?

5. **Stretch Your Thinking** Draw any two triangles and measure the angles in each. Find the sum of the angle measures. Look back at the angle measures you found in Exercises 1–4. Can you draw a triangle for each set? **Explain.**

Name _____

Inching Closer

Solve each problem.

1. In a football game, a running back gained $4\frac{1}{2}$ yards on one play. What is this distance in inches?
2. Margie is $5\frac{1}{3}$ feet tall. How many inches tall is she?

3. A quarterback threw a football 10 yards 2 feet 1 inch. How many inches did the quarterback throw the football?
4. From a standing position, Meg jumps 7 feet 4 inches and Victor jumps 9 feet 2 inches. How many inches farther does Victor jump than Meg?

5. Jeremy ran 5 yards 2 feet 3 inches. In the same time, John ran 9 yards 1 foot 10 inches. How many inches farther did John run than Jeremy?
6. A rectangular flower garden measures 3 yards 1 foot 8 inches wide and 1 yard 2 feet 3 inches long. How many inches of fencing is needed to enclose the entire flower garden?

7.  **Write Math** Explain how you solved Problem 6.

Name _____

Discover the Line Plot

The students in Richie's class were asked how much juice they drink at breakfast. Use the clues to make a line plot. Draw your line plot in the space below. Remember to include a title.

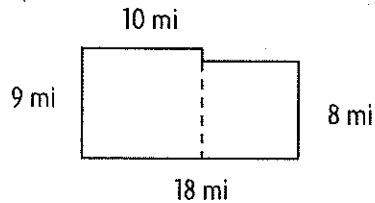
1. The most any student drinks is $1\frac{1}{2}$ cups of juice.
2. The response given most often was $\frac{3}{4}$ cup. The number of responses was 1 more than the next greatest amount.
3. Two students said that they don't drink any juice in the morning.
4. The students drink a total of $8\frac{1}{4}$ cups of juice.
5. Three students drink 1 cup of juice each.
6. Together, only three students gave a response of $\frac{1}{4}$, $\frac{1}{2}$, $1\frac{1}{4}$, or $1\frac{1}{2}$; and none of these had more than 1 response.

7. Stretch Your Thinking What fraction of the students drank more than $\frac{1}{2}$ cup of juice? **Explain.**

Name _____

Area of Combined Rectangles

Find the area of the combined rectangles.



Step 1 First, find the area of each section of the shape.

LEFT

$$\begin{aligned} A &= b \times h \\ &= 10 \times 9 \\ &= 90 \end{aligned}$$

RIGHT

$$\begin{aligned} A &= b \times h \\ &= 8 \times 8 \\ &= 64 \end{aligned}$$

Think: $18 - 10 = 8$

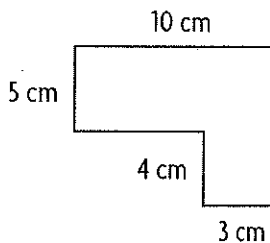
Step 2 Add the two areas.

$$90 + 64 = 154$$

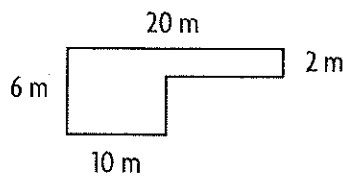
So, the total area is 154 square miles.

Find the area of the combined rectangles.

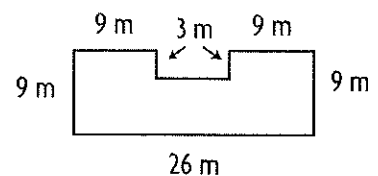
1.



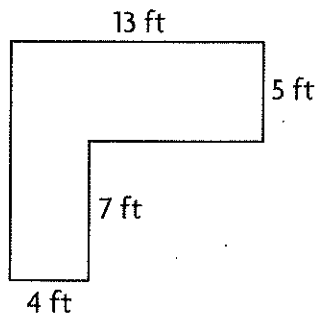
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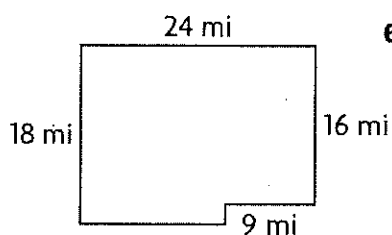
3.



4.



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