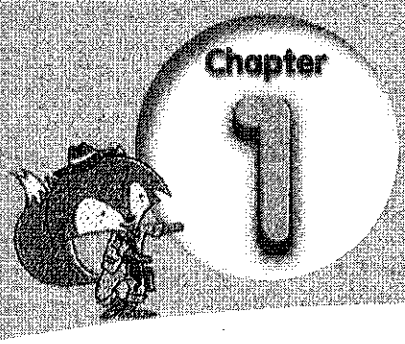
Name: _____ Date: _____

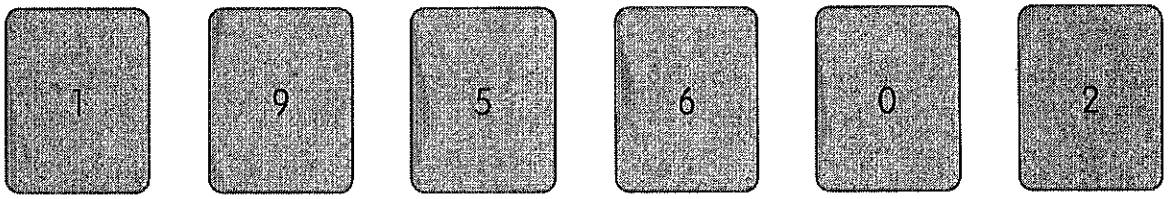


Enrichment
Working with Whole Numbers

Activity 2 Numbers to 1,000,000

Solve. Show your work.

1. You are given the following six number cards.



a Write the greatest possible 6-digit number.

b Write the least possible 6-digit number.

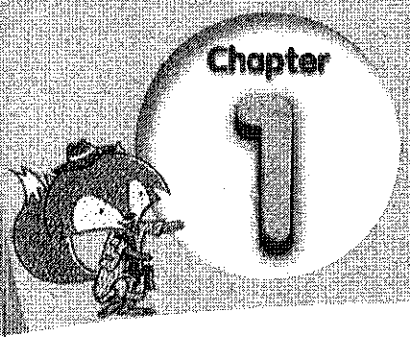
2. Form a possible 5-digit number using the following clues.

- All the five digits are different.
- None of the digits are 0.
- The digit in the ten thousands place is greater than 5.
- The sum of all the five digits is 22.
- The greatest digit is equal to the sum of the digits in the tens, hundreds, and thousands place.

Complete the number pattern.

3. 845,967 795,467 744,967 _____ _____

Name: _____ Date: _____



Enrichment
Working with Whole Numbers

Activity 5 Rounding and Estimating

Solve. Show your work.

1. Ana estimates the sum of 32,784 and 50,438 by rounding to the nearest hundred and nearest thousand. Which method gives a more accurate answer? Explain.

2. Eli estimates the difference between 90,071 and 28,546 using two methods. Which method gives a more accurate answer? Explain.

3 Mr. Gomez bought the following items at a supermarket.

Item	Cost
Canned soup	$8.88
Almond milk	$21.96
Sausage	$5.59
Salmon	?

His grocery bill totaled $45. About how much did he pay for the salmon?

Name: _____ Date: _____

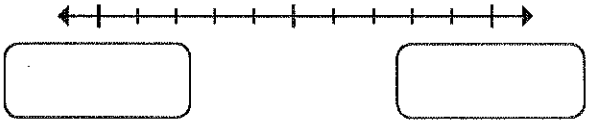
Chapter 1

Extra Practice and Homework
Working with Whole Numbers

Activity 5 Rounding and Estimating

Fill in each blank.

1. Round 2,500 to the nearest thousand.

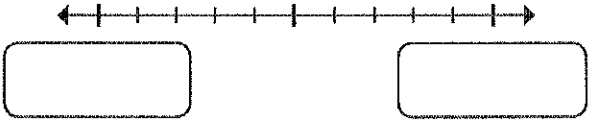


2,500 is exactly halfway between _____ and _____.

2,500 is _____ when rounded to the nearest thousand.

2,500 ≈ _____

2. Round 8,499 to the nearest thousand.



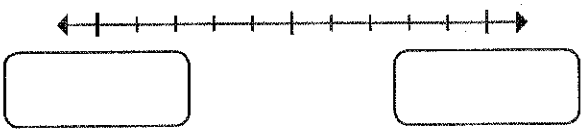
8,499 is between _____ and _____.

8,499 is nearer to _____ than to _____.

8,499 is _____ when rounded to the nearest thousand.

8,499 ≈ _____

3 Round 63,500 to the nearest thousand.

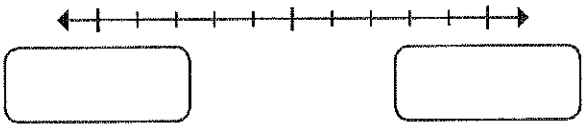


63,500 is exactly halfway between _____ and _____.

63,500 is _____ when rounded to the nearest thousand.

63,500 ≈ _____

4 Round 85,260 to the nearest thousand.



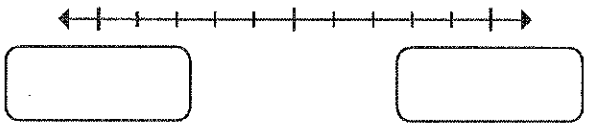
85,260 is between _____ and _____.

85,260 is nearer to _____ than to _____.

85,260 is _____ when rounded to the nearest thousand.

85,260 ≈ _____

5 Round 428,160 to the nearest thousand.



428,160 is between _____ and _____.

428,160 is nearer to _____ than to _____.

428,160 is _____ when rounded to the nearest thousand.

428,160 ≈ _____

6 Round 685,934 to the nearest thousand.

685,934 is between _____ and _____.

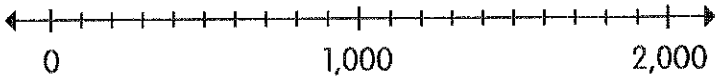
685,934 is nearer to _____ than to _____.

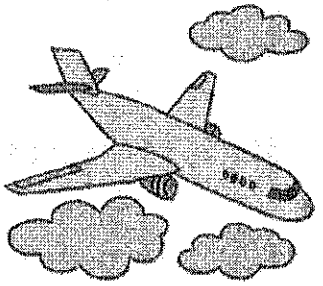
685,934 is _____ when rounded to the nearest thousand.

685,934 ≈ _____

Fill in each blank.

7 A group of airlines flies to about 1,000 destinations in the world. Find the greatest and least possible number of destinations before it was rounded to the nearest thousand. Use the number line to help you.





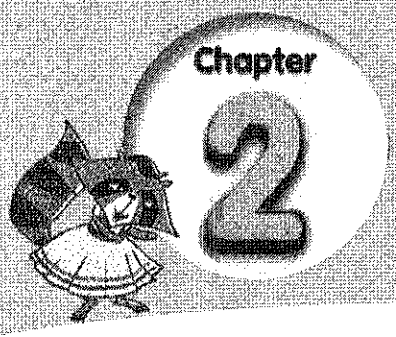
The greatest possible number of destinations is _____.

The least possible number of destinations is _____.

Round each number to the nearest hundred and the nearest thousand.

	Number	Rounded to the Nearest	
		Hundred	Thousand
8	4,168		
9	6,219		
10	12,892		
11	26,145		
12	32,875		
13	75,463		

Name: _____ Date: _____



Extra Practice and Homework
Multiplication and Division

Activity 1 Multiplying by a 1-Digit or 2-Digit Number

Multiply.

1. $2{,}000 \times 4 =$ _____

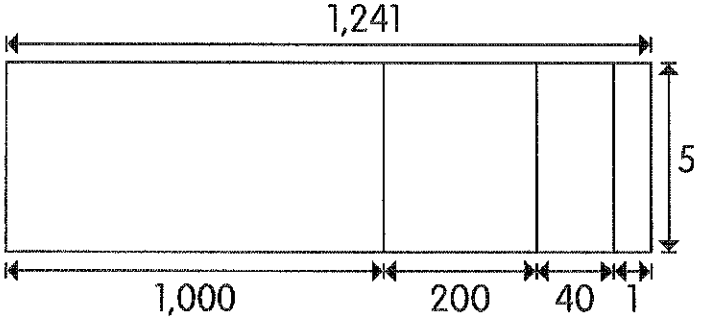
2. $3 \times 1{,}000 =$ _____

3. $5 \times 4{,}000 =$ _____

4. $7{,}000 \times 6 =$ _____

Use the area model to find each product.

5.



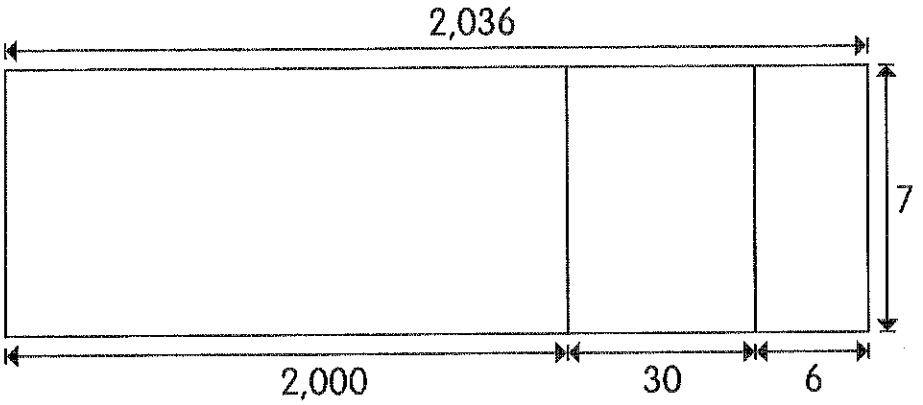
1,241 × 5 = (_____ × _____) + (_____ × _____)

+ (_____ × _____) + (_____ × _____)

= _____ + _____ + _____ + _____

= _____

6



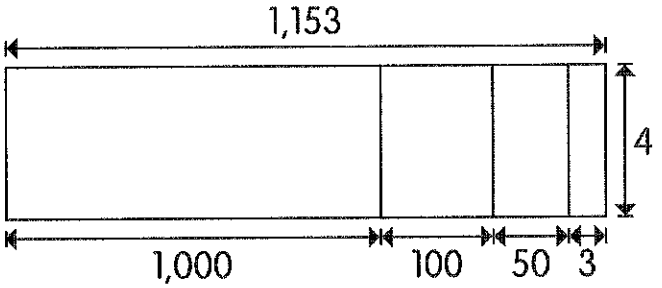
2,036 × 7 = (_____ × _____) + (_____ × _____)

+ (_____ × _____)

= _____ + _____ + _____

= _____

7



1,153 × 4 = (_____ × _____) + (_____ × _____)

+ (_____ × _____) + (_____ × _____)

= _____ + _____ + _____ + _____

= _____

18 $6 \times 2{,}134 =$ _____

19 $3{,}270 \times 3 =$ _____

20 $2{,}109 \times 7 =$ _____

21 $3 \times 1{,}685 =$ _____

22
$$\begin{array}{r} 2,105 \\ \times \quad 4 \\ \hline \end{array}$$

23
$$\begin{array}{r} 2,374 \\ \times \quad 2 \\ \hline \end{array}$$

24
$$\begin{array}{r} 2,512 \\ \times \quad 3 \\ \hline \end{array}$$

25
$$\begin{array}{r} 6,920 \\ \times \quad 4 \\ \hline \end{array}$$

26 $1,245 \times 3$

27 $2,019 \times 7$

28 $1,520 \times 6$

29 $4,217 \times 5$

30 $1,474 \times 6$

31 $1,296 \times 4$

32 $5,382 \times 5$

33 $8,572 \times 8$

Multiply. Show your work. Estimate to check that each answer is reasonable.

47
$$\begin{array}{r} 91 \\ \times\ 25 \\ \hline \end{array}$$

48
$$\begin{array}{r} 37 \\ \times\ 82 \\ \hline \end{array}$$

49
$$\begin{array}{r} 54 \\ \times\ 83 \\ \hline \end{array}$$

50
$$\begin{array}{r} 96 \\ \times\ 20 \\ \hline \end{array}$$

51 $21 \times 62 =$ _____

52 $13 \times 58 =$ _____

53 $87 \times 26 =$ _____

54 $70 \times 39 =$ _____

Find each product.

55 $75 \times 500 =$ _____

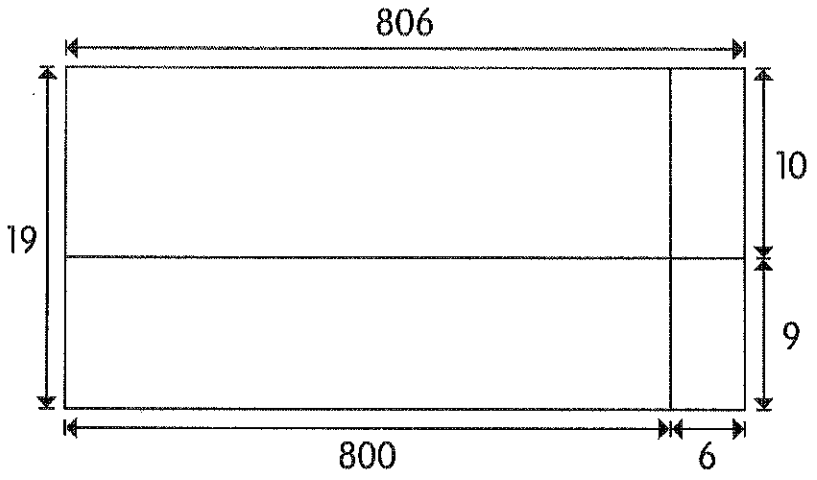
56 $80 \times 225 =$ _____

57 $90 \times 320 =$ _____

58 $50 \times 680 =$ _____

Use the area model to find the product.

59



806 × 19 = (_____ × _____) + (_____ × _____)

+ (_____ × _____) + (_____ × _____)

= _____ + _____ + _____ + _____

= _____

Multiply. Show your work. Estimate to check that each answer is reasonable.

60

$$\begin{array}{r} 112 \\ \times\ 14 \\ \hline \end{array}$$

61

$$\begin{array}{r} 925 \\ \times\ 11 \\ \hline \end{array}$$

62

$$\begin{array}{r} 731 \\ \times\ 25 \\ \hline \end{array}$$

63

$$\begin{array}{r} 208 \\ \times\ 27 \\ \hline \end{array}$$

64 $280 \times 65 =$ _____

65 $318 \times 16 =$ _____

66 $21 \times 446 =$ _____

67 $23 \times 809 =$ _____

Fill in each blank.

68

$$\begin{array}{r} 5\ 4 \\ \times\ \square\ 6 \\ \hline 3\ 2\ 4 \\ 5\ 4\ 0 \\ \hline 8\ 6\ 4 \end{array}$$

69

$$\begin{array}{r} 7\ \square \\ \times\ \ 4\ 3 \\ \hline 2\ 2\ 5 \\ 3,\ 0\ 0\ 0 \\ \hline 3,\ 2\ 2\ 5 \end{array}$$

Name: _____ Date: _____

Enrichment
Multiplication & Division

Activity 1 Multiplying by a 1-Digit or 2-Digit Number

Find each missing digit.

1.
$$\begin{array}{r} 2,\,0\,1\,A \\ \times \qquad\quad A \\ \hline B,\,0\,A\,9 \end{array}$$

2.
$$\begin{array}{r} M,\,3\,1\,N \\ \times \qquad\quad 4 \\ \hline 9,\,M\,7\,M \end{array}$$

Solve. Show your work.

3. Dominic says that the product of 827 and 53 is 43,511. Is his answer correct? Explain.

Name: _____ Date: _____

Enrichment
Multiplication & Division

Activity 5 Factors

Solve. Show your work.

1. Ayden is thinking of a number. He writes down all its factors. Apart from 1 and the number itself, he notices that the greatest factor is 24 times as big as the least factor. Given that the number is less than 100, find the number.

2. Ms. Lee has 24 roses and 42 tulips.

   a. Find the greatest number of bunches of flowers that she can make if there is an equal number of each type of flowers in each bunch?

   b. How many roses and tulips will there be in each bunch?

3 Some numbers are missing in the multiplication puzzle below.

×	3	B	6	9
2	A	10	12	18
4	12	20	24	36
6	18	30	C	54
D	21	35	42	63

a Find each missing number.

b State whether A and B are prime or composite numbers. Explain.

Name: _____ Date: _____

Extra Practice and Homework
Multiplication and Division

Activity 5 Factors

Find each missing factor.

1. 12 $12 = 1 \times$ _____

$12 = 2 \times$ _____

$12 = 3 \times$ _____

The factors of 12 are

1, 2, 3, _____, _____, and _____.

2. 70 $70 = 1 \times$ _____

$70 = 2 \times$ _____

$70 = 5 \times$ _____

$70 = 7 \times$ _____

The factors of 70 are 1, 2, 5, 7, _____, _____,

_____, and _____ .

Find the factors of each number.

3. 40

The factors of 40 are

_____.

4. 63

The factors of 63 are

_____.

Divide. Then, answer each question.

5 $65 \div 5 =$ _____

Is 5 a factor of 65? _____

6 $46 \div 4 =$ _____

Is 4 a factor of 46? _____

Find each missing factor.

7 $49 = 7 \times$ _____

8 $27 = 3 \times$ _____

9 $50 =$ _____ $\times 5$

10 $54 =$ _____ $\times 9$

Find all the common factors of each pair of numbers.

		Factors	Common Factors
11	10		
	15		
12	24		
	36		

Divide. Then, answer each question.

13 $18 \div 4 =$ _____

$16 \div 4 =$ _____

Is 4 a common factor of 18 and 16? _____

14 $42 \div 3 =$ _____

$84 \div 3 =$ _____

Is 3 a common factor of 42 and 84? _____

Look at the numbers 80, 27, 40, 62, 36, and 55. Then, answer each question.

15 Which of the numbers have 2 as a factor? _____

16 Which of the numbers have 5 as a factor? _____

17 Which of the numbers have both 2 and 5 as factors? _____

Each set of numbers are all the factors of a number. Find each number.

	Factors	Number
18	1, 2, 4, and 8	
19	1, 2, 3, 4, 6, and 12	
20	1, 2, 3, and 6	
21	1, 2, 4, 8, and 16	

Find the common factors of each pair of numbers.

22 12 and 28

23 16 and 30

24 21 and 54

Find all the factors of each number.

25 12 _____

26 7 _____

27 19 _____

28 24 _____

29 11 _____

30 63 _____

Look at the given numbers in questions 25 to 30. List the prime numbers.

31 The prime numbers are _____.

Explain your reasoning. _____

_____

Name: _____ Date: _____

Enrichment
Multiplication & Division

Activity 6 Multiples

Solve. Show your work.

1. Elizabeth says that the following numbers are multiples of 9:

   342 463 102

   Do you agree with Elizabeth? Explain.

2. Mr. Cox wants to buy a house. He wants a house number that is divisible by both 3 and 5. If all the houses numbered between 1 and 100 inclusive are listed for sale, how many houses can he choose from?

3 Richmond Park High School offers the same lunch choices each day.

Starters	salad, fruit juice, soup
Main Course	chicken, fish, pasta, rice, sandwich
Dessert	yogurt, cake

Brooke changes her choice for each course every day in order to try all the options. She starts by choosing salad, chicken, and yogurt on Day 1. How many school lunches will she have eaten before she chooses the same salad-chicken-yogurt combination again?

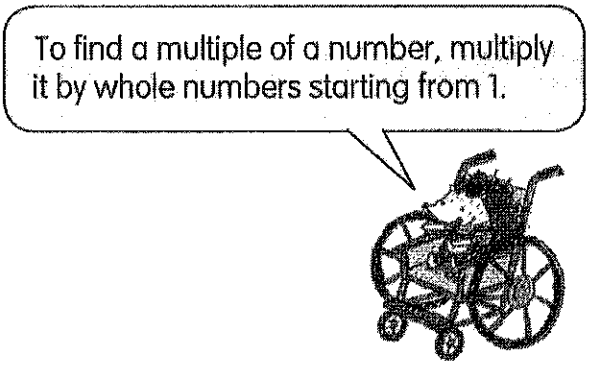
Name: _____ Date: _____

Extra Practice and Homework
Multiplication and Division

Activity 6 Multiples

Fill in the table with the multiples of each given number.

	Number	First Multiple	Second Multiple	Third Multiple	Fourth Multiple	Fifth Multiple
1	4					
2	7					
3	8					
4	9					



Fill in each blank.

5 The first multiple of 9 is _____.

6 The second multiple of 8 is _____.

7 The first 12 multiples of 7 are _____

_____.

8 The seventh multiple of 7 is _____.

9 The twelfth multiple of 7 is _____.

Check (✓) the correct box. Fill in the blank when necessary.

10 Is 32 a multiple of 6?

☐ Yes, it is the _____ multiple of 6.

☐ No, it is not a multiple of 6.

11 Is 63 a multiple of 9?

☐ Yes, it is the _____ multiple of 9.

☐ No, it is not a multiple of 9.

Use the numbers in the boxes to make each list.

30	84	15	63	56	24

12 Multiples of 3: _____

13 Multiples of 8: _____

Write a statement that represents each multiplication equation.

14 $72 = 9 \times 8$

_____ is _____ times as many as _____.

15 $108 = 12 \times 9$

_____ is _____ times as many as _____.

Write a multiplication equation that represents each statement.

16 84 is 7 times as many as 12.

_____ = _____ × _____

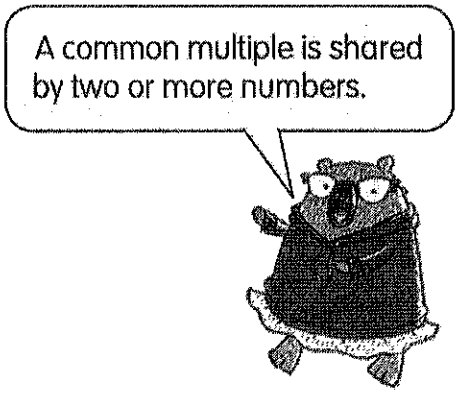
17 96 is 12 times as many as 8.

_____ = _____ × _____

Find the common multiples of each pair of numbers.

18

1 × 2 = 2	1 × 3 = 3
2 × 2 = 4	2 × 3 = 6
3 × 2 = 6	3 × 3 = 9
4 × 2 = 8	4 × 3 = 12
5 × 2 = 10	5 × 3 = 15
6 × 2 = 12	6 × 3 = 18
7 × 2 = 14	
8 × 2 = 16	
9 × 2 = 18	



The multiples of 2 are _____.

The multiples of 3 are _____.

The first three common multiples of 2 and 3 are _____.

19 The first 14 multiples of 5 are 5, 10, 15, 20, 25, 30, 35, _____

_____.

The first ten multiples of 7 are 7, 14, 21, 28, 35, 42, _____.

The first two common multiples of 5 and 7 are _____.

20 The first 15 multiples of 4 are _____

_____.

The first 12 multiples of 5 are _____

_____.

The first three common multiples of 4 and 5 are _____.

Write the first ten multiples of each number. Then, find the first common multiple of each pair of numbers.

21 8 and 5

8 _____

5 _____

The first common multiple of 8 and 5 is _____.

22 6 and 9

6 _____

9 _____

The first common multiple of 6 and 9 is _____.

23 12 and 15

12 _____

15 _____

The first common multiple of 12 and 15 is _____.

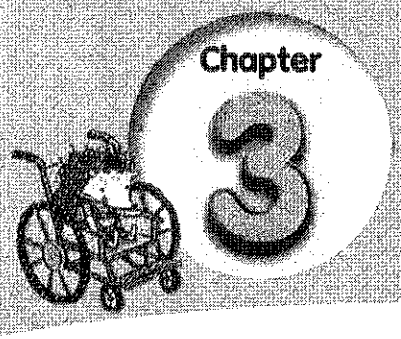
Fill in each blank.

24 Write a possible number that has a remainder of 3 when divided by 8. _____

Which 1-digit number can be added to the number to make it a multiple of 5? _____

25 Write a possible 1-digit number that is a multiple of a 1-digit number (other than itself) and a factor of a 1-digit number (other than itself). _____

Name: _____ Date: _____



Extra Practice and Homework
Fractions and Mixed Numbers

Activity 6 Renaming Improper Fractions and Mixed Numbers

Convert each improper fraction to a mixed number. Express each answer in simplest form.

1. $\frac{8}{5} = \frac{5}{5} + \frac{\square}{5}$

$= 1 + \frac{\square}{5}$

$= 1\frac{\square}{5}$

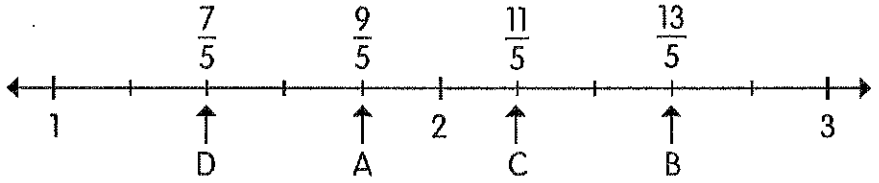
2. $\frac{15}{8}$

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

4. $\frac{13}{6}$

Find the mixed number represented by each letter on the number line.

5.



A = _____ C = _____

B = _____ D = _____

Convert each mixed number to an improper fraction. Express each answer in simplest form.

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

$= \frac{\square}{5}$

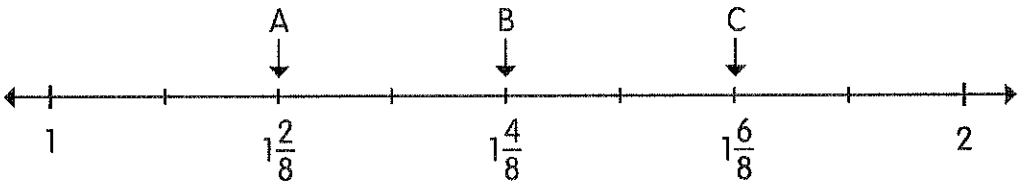
7 $3\frac{5}{6}$

8 $2\frac{5}{8}$

9 $4\frac{7}{12}$

Find the improper fraction represented by each letter on the number line. Express each answer in simplest form.

10



A = _____ B = _____ C = _____

Solve.

11 Which of the following fractions are equal?

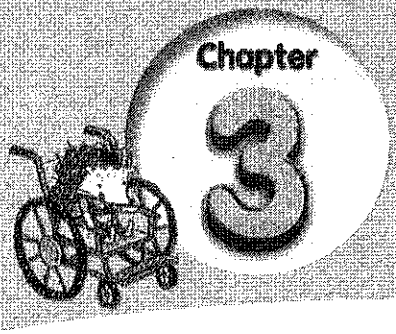
$2\frac{1}{2}$ $2\frac{3}{6}$ $\frac{10}{4}$ $1\frac{3}{2}$

_____

12 Express $3\frac{1}{5}$ in three different ways.

_____

Name: _____ Date: _____



Extra Practice and Homework
Fractions and Mixed Numbers

Activity 7 Adding and Subtracting Mixed Numbers

Add. Show your work. Express each answer in simplest form.

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

2. $1\frac{4}{10} + 3\frac{5}{10} =$ _____

3. $3\frac{7}{12} + 5\frac{3}{12} =$ _____

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

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

6. $3\frac{1}{6} + 2\frac{1}{6} =$ _____

7. $1\frac{4}{5} + 2\frac{2}{5} =$ _____

8. $3\frac{3}{4} + 1\frac{3}{4} =$ _____

Subtract. Show your work. Express each answer in simplest form.

9. $3\frac{8}{12} - 1\frac{5}{12} =$ _____

10. $4\frac{5}{8} - 3\frac{4}{8} =$ _____

11. $7\frac{5}{6} - 2\frac{1}{6} =$ _____

12. $8\frac{2}{3} - 5\frac{1}{3} =$ _____

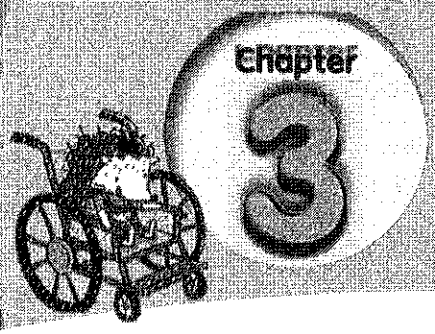
13. $3\frac{3}{10} - 1\frac{8}{10} =$ _____

14. $9\frac{1}{5} - 6\frac{2}{5} =$ _____

15. $7 - 3\frac{5}{8} =$ _____

16. $8 - 1\frac{7}{10} =$ _____

Name: _____ Date: _____



Enrichment
Fractions and Mixed Numbers

Activity 7 Adding and Subtracting Mixed Numbers

Complete the number pattern.

1 $8\frac{2}{5}$ 7 $5\frac{3}{5}$ $4\frac{1}{5}$ _____ _____

Solve. Show your work.

2 a Chase made the calculation below.

$2\frac{2}{9} + 4\frac{5}{9} = 6\frac{7}{18}$

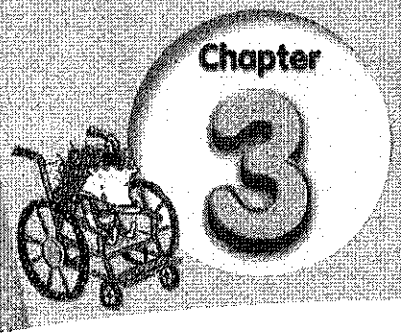
What error did he make?

b Show the correct calculation.

3 Form two addition equations with the fractions below to form 5 wholes.

$\frac{10}{7}$	$2\frac{3}{7}$	$2\frac{2}{7}$	$3\frac{4}{7}$	$\frac{19}{7}$	$2\frac{4}{7}$

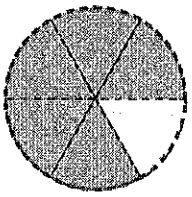
Name: _____ Date: _____



Extra Practice and Homework
Fractions and Mixed Numbers

Activity 8 Multiplying Fractions and Whole Numbers

Write the fraction as the sum of unit fractions. Then, write it as a product of a whole number and a unit fraction.

1 

$\frac{5}{6}$ = _____ + _____ + _____ + _____ + _____

= _____ × _____

Write each fraction as a product of a whole number and a unit fraction.

2 $\frac{7}{10}$

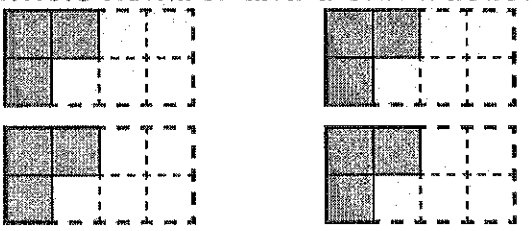
3 $\frac{13}{8}$

4 $\frac{11}{12}$

5 $\frac{12}{5}$

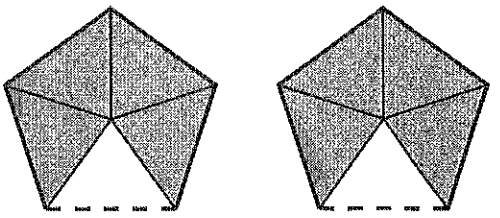
Write the given expression as a product of a whole number and a unit fraction.

6 $4 \times \frac{3}{8}$



Find the product.

7 $2 \times \frac{4}{5}$



Find each product. Show your work. Write each answer as a fraction or mixed number in simplest form.

8 $5 \times \frac{1}{4}$

9 $3 \times \frac{5}{12}$

10 $\frac{7}{10} \times 2$

11 $\frac{5}{8} \times 7$

12 $4 \times \frac{11}{6}$

13 $6 \times \frac{9}{5}$

14 **Solve.**

How would you change the equation below to get double the answer?

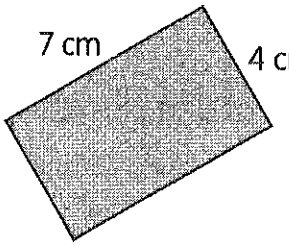
$4\frac{1}{3} \times 6 = 26$

Name: _____ Date: _____

Extra Practice and Homework
Area and Perimeter

Activity 1 Area and Unknown Sides

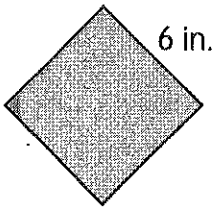
Find the perimeter of each figure.

1. 

Perimeter of rectangle

= _____ + _____ + _____ + _____

= _____ cm

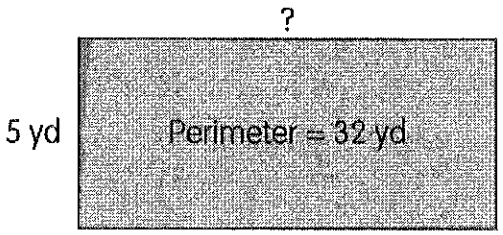
2. 

Perimeter of square = _____ × _____

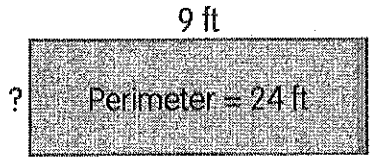
= _____ in.

Solve. Show your work.

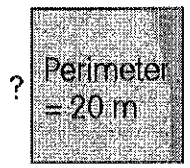
3. The perimeter of a rectangle is 32 yards. Its breadth is 5 yards. Find its length.



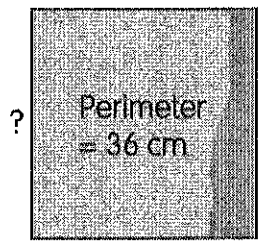
4. The perimeter of a rectangle is 24 feet. Its length is 9 feet. Find its breadth.



5. The perimeter of a square is 20 meters. Find the length of one side of the square.

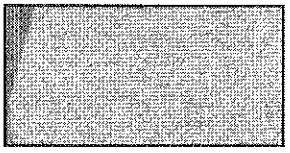


6. The perimeter of a square is 36 centimeters. Find the length of one side of the square.



Find the area of each figure.

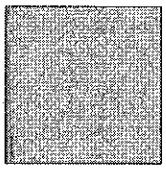
7



Area of rectangle = _____ × _____

= _____ cm^2

8

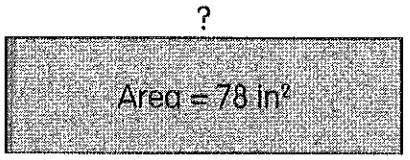


Area of square = _____ × _____

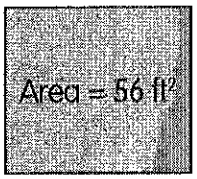
= _____ m^2

Solve. Show your work.

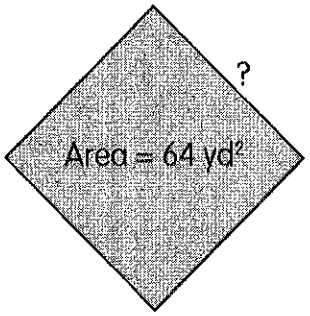
9 The area of a rectangle is 78 square inches. Its breadth is 6 inches. Find its length.



10 A rectangle has an area of 56 square feet. Its length is 8 feet. Find its breadth.

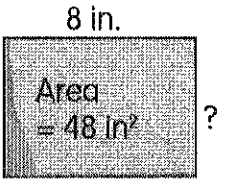


11 The area of a square is 64 square yards. Find the length of one side of the square.



12 The area of a rectangular piece of paper is 48 square inches. Its length is 8 inches.

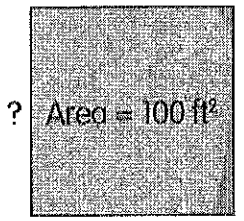
a Find its breadth.



b Find the perimeter of the rectangular piece of paper.

13 The area of a square garden is 100 square feet. The length of each side is a whole number.

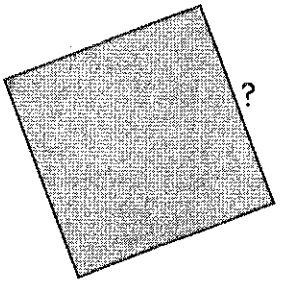
a Find the length of each side of the garden.



b Find the perimeter of the garden.

14 The perimeter of a square handkerchief is 28 centimeters.

a Find the length of each side of the handkerchief.



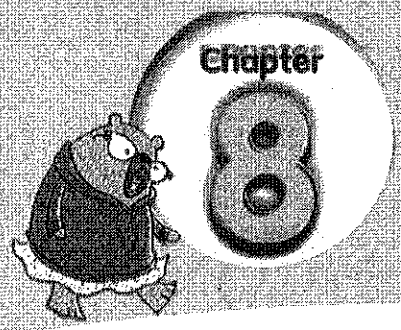
b Find the area of the handkerchief.

15 The perimeter of a rectangular carpet is 48 meters. Its length is 2 meters longer than its breadth.

a Find its length.

b Find the area of the rectangular carpet.

Name: _____ Date: _____

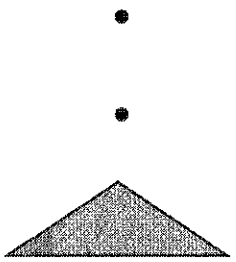
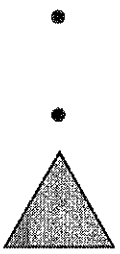
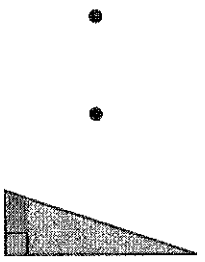


Extra Practice and Homework
Polygons and Symmetry

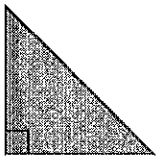
Activity 1 Classifying Triangles

Answer each question.

1. Match the triangles to their correct names and descriptions.

One right angle	One obtuse angle	Three acute angles
		
Acute triangle	Right triangle	Obtuse triangle

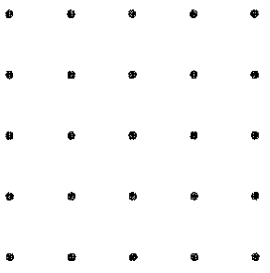
2. Write a description for this triangle.



_____

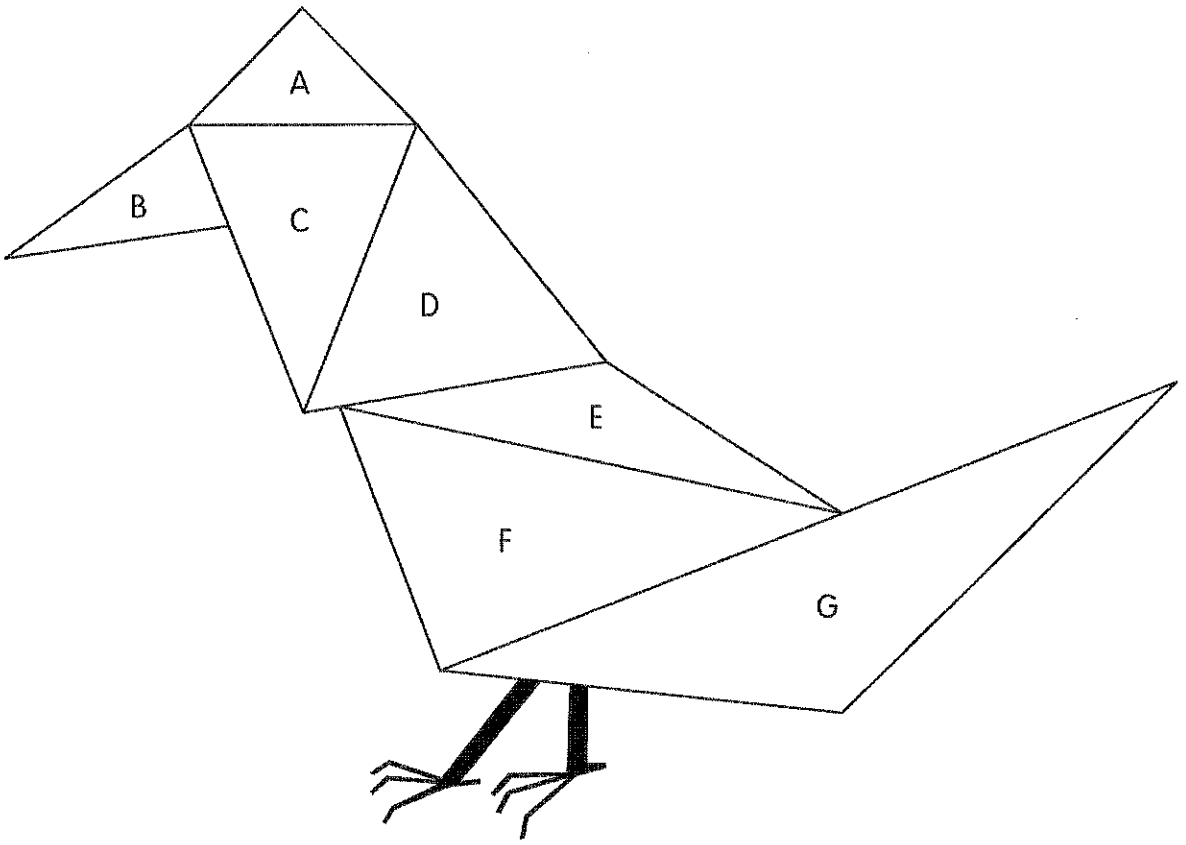
_____

3. On the dot paper below, draw a triangle that fits this description:
This triangle has three acute angles.



4 In the figure below, colour
- all the right triangles red,
- all the obtuse triangles yellow, and
- all the acute triangles blue.

You may use a protractor to check the angles.



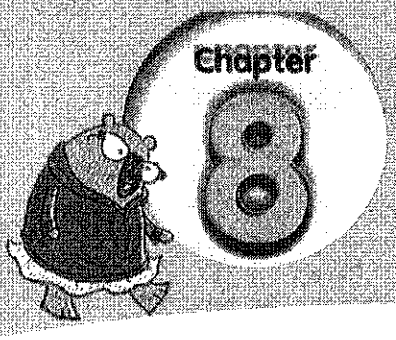
Sort and list the triangles in the figure above.

5 Right triangle: _____

6 Obtuse triangle: _____

7 Acute triangle: _____

Name: _____ Date: _____



Extra Practice and Homework
Polygons and Symmetry

Activity 2 Classifying Polygons

Fill in each blank.

1. A _____ triangle, a _____, and a _____ each have at least one right angle.

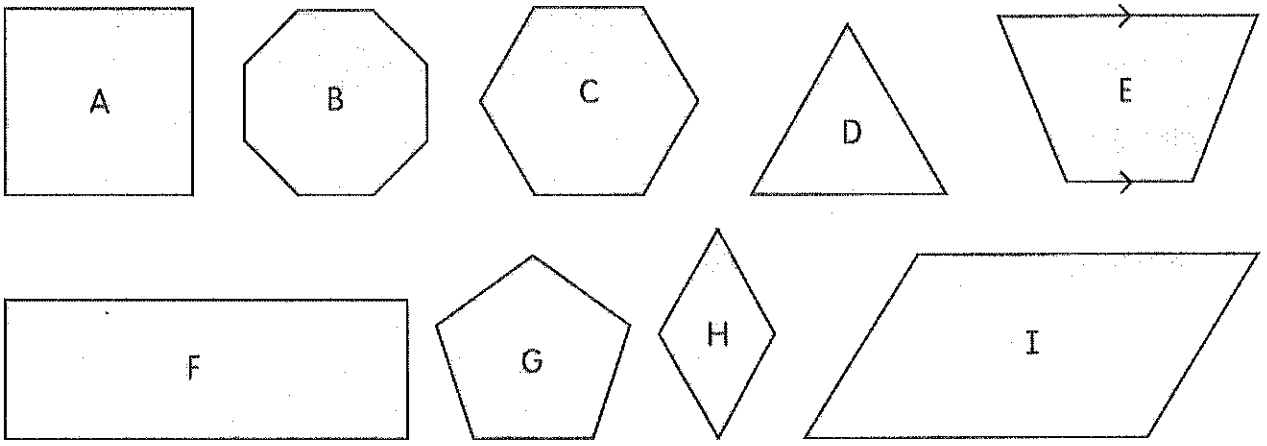
2. A _____ and a _____ have two acute angles and two obtuse angles.

3. A _____ has 1 pair of parallel sides.

4. A _____, a _____, a _____, and a _____ have two pairs of parallel sides.

5. A _____, a _____, and an _____ have only obtuse angles.

Sort the polygons into six groups. Write the letter of each polygon in the correct group. Explain how you have sorted them.



6

At Least One Pair of Parallel Sides	No Parallel Sides

7

At Least One Obtuse Angle	No Obtuse Angles

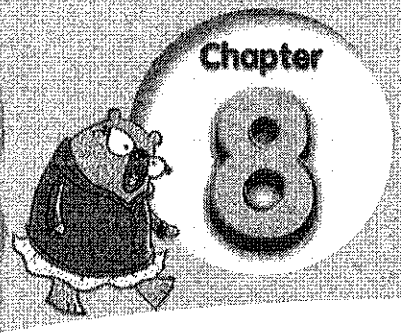
8

At Least One Right Angle	No Right Angles

Answer the question.

9 Explain why all squares are rectangles but not all rectangles are squares. Draw figures to show your explanation.

Name: _____ Date: _____

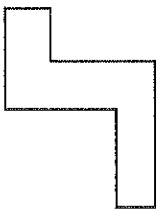


Extra Practice and Homework
Polygons and Symmetry

Activity 3 Symmetric Shapes and Lines of Symmetry

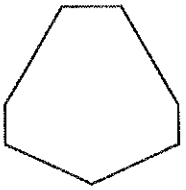
Circle the letter below each symmetric figure.
Then, draw a line of symmetry for that figure.

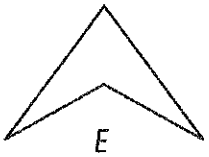
1

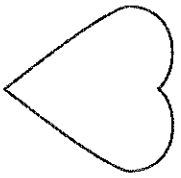

A

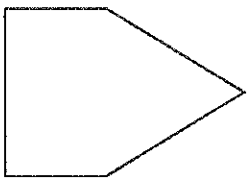

B

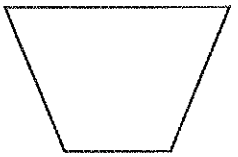

C


D


E

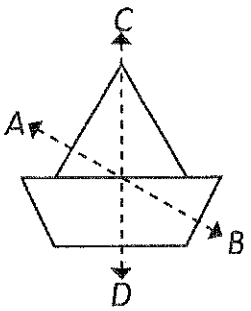

F


G


H

Check (✓) the box next to each symmetric figure.
Then, identify the line of symmetry in that figure.

2



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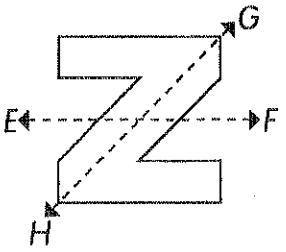
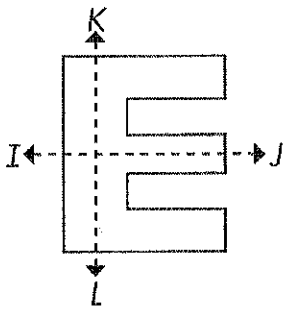
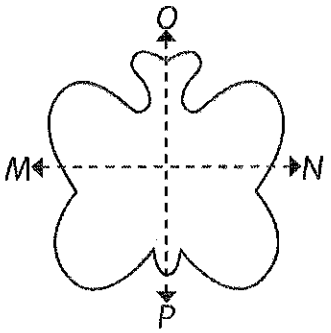


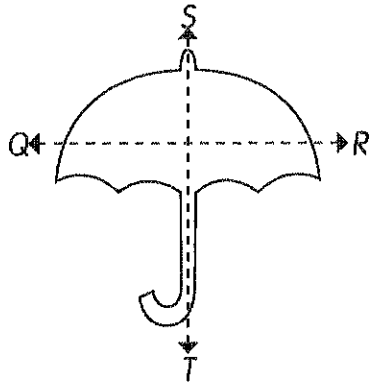
☐ _____



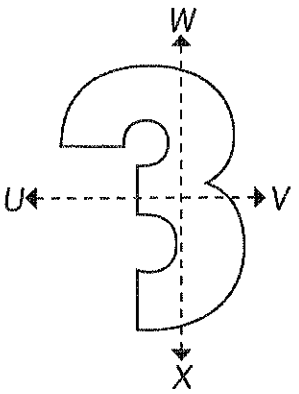
☐ _____



☐ _____

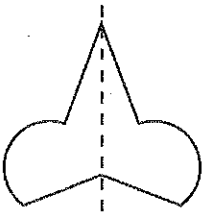


☐ _____

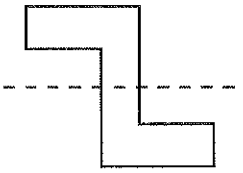


☐ _____

Is the dotted line in each figure a line of symmetry? Write "Yes" or "No" in each blank.

3 

_____

4 

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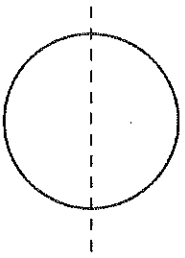
5 

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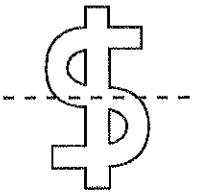
6 

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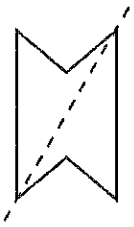
7 

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8 

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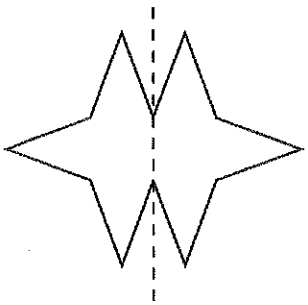
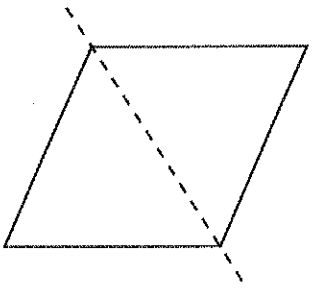
9 

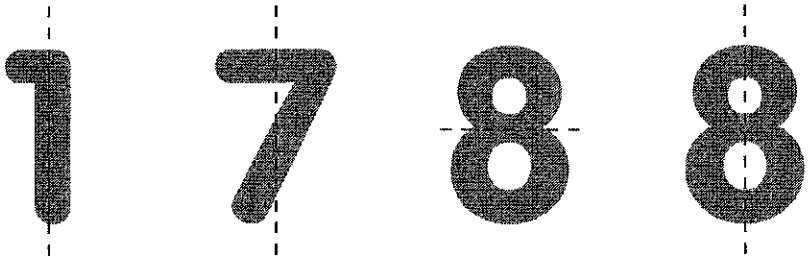
_____

10 

_____

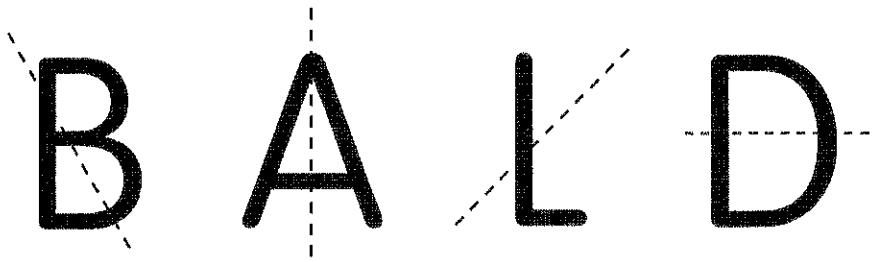
Answer each question.

11 The first United States presidential election was held in 1788. Is the dotted line in each number a line of symmetry? Write "Yes" or "No" in each blank.



_____ _____ _____ _____

12 The bald eagle is the mascot of the United States. Is the dotted line in each letter a line of symmetry? Write "Yes" or "No" in each blank.



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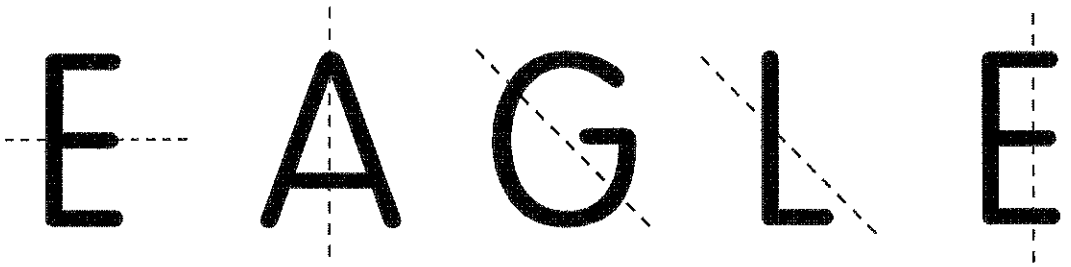

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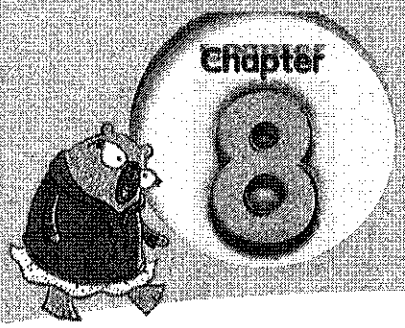
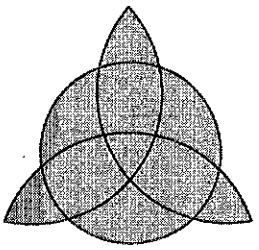
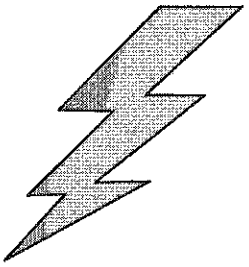
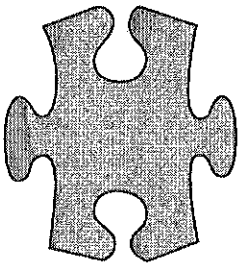
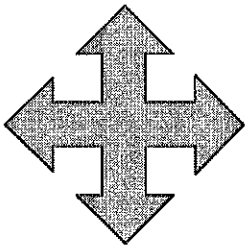
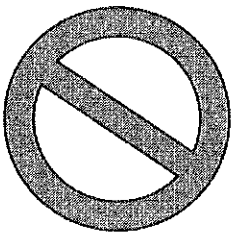
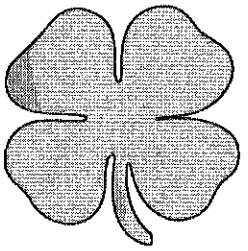


Enrichment
Polygons and Symmetry

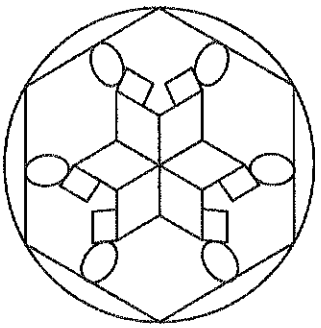
Activity 3 Symmetric Shapes and Lines of Symmetry

Answer each question.

1. Write the number of lines of symmetry for each figure below.

2 Draw all the lines of symmetry for the symmetric figure.



3 Is a circle a symmetric shape? Explain.
Draw a diagram to show your thinking.

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Chapter Wrap-Up

CHAPTER WRAP-UP

How can you multiply by a 2-digit number? How can you divide whole numbers?

Multiplication and Division

Maze: Multiplication and Division

Multiplication

Multiplying by a 1-digit number:

$$\begin{array}{r} {\scriptstyle 1\ 1\ 1} \\ 1,345 \\ \times \quad 3 \\ \hline 4,035 \end{array}$$

$1,345 \times 3 = 4,035$

Multiplying by a 2-digit number:

$$\begin{array}{r} 16 \\ \times\ 12 \\ \hline 32 \\ 160 \\ \hline 192 \end{array}$$

$16 \times 12 = 192$

Estimating products by rounding:
$2,874 \times 7$
↓
$3,000 \times 7 = 21,000$
The estimated product is 21,000.

Division

Dividing by a 1-digit number without regrouping, and with or without remainder:

$$\begin{array}{r} 13 \leftarrow \text{Quotient} \\ 3\overline{)39} \\ 3 \\ \hline 9 \\ 9 \\ \hline 0 \end{array}$$

$39 \div 3 = 13$

Dividing by a 1-digit number with regrouping, and with or without remainder:

$$\begin{array}{r} 18 \leftarrow \text{Quotient} \\ 4\overline{)74} \\ 4 \\ \hline 34 \\ 32 \\ \hline 2 \leftarrow \text{Remainder} \end{array}$$

$74 \div 4 = 18$ R 2

Recall related multiplication facts to estimate quotients:
To estimate $546 \div 6$,
$6 \times 90 = 540$
$6 \times 100 = 600$
546 is closer to 540 than to 600.
$540 \div 6 = 90$
The estimated quotient is 90.

Factors and Multiples

Any whole number is a multiple of its factors.

$14 = 1 \times 14$
$14 = 2 \times 7$
1, 2, 7, and 14 are factors of 14.
So, 14 is a multiple of 1, 2, 7, and 14.

Prime and Composite Numbers

A prime number has only two different factors, 1 and the number itself.
$5 = 1 \times 5$
5 is a prime number.

A composite number has more than two different factors.
$6 = 1 \times 6$
$6 = 2 \times 3$
6 is a composite number.

Contents

Chapter Wrap-Up

How can you represent fractions greater than 1? How can you add and subtract fractions? How can you multiply fractions and whole numbers?

Fractions and Mixed Numbers

Pete the Plumber: Fractions and Mixed Numbers

Equivalent Fractions

You can use multiplication and division to find equivalent fractions.

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

Mixed Numbers and Improper Fractions

$2\frac{1}{4}$ is a mixed number. It has a whole number, 2, and a fraction, $\frac{1}{4}$.

$\frac{5}{5}$ and $\frac{6}{5}$ are improper fractions. They are equal to or greater than 1.

You can rename improper fractions and mixed numbers.

$\frac{9}{4} = \frac{8}{4} + \frac{1}{4}$
$= 2\frac{1}{4}$

$2\frac{1}{4} = 2 + \frac{1}{4}$
$= \frac{8}{4} + \frac{1}{4}$
$= \frac{9}{4}$

Comparing and Ordering Fractions

Comparing and ordering unlike fractions: Find equivalent fractions with

- a common denominator.

$\frac{3}{4} = \frac{6}{8} = \frac{9}{12}$ $\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12}$

$\frac{9}{12}$ is greater than $\frac{4}{12}$.

So, $\frac{3}{4} > \frac{1}{3}$.

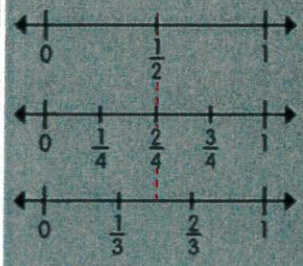
- a common numerator.

$\frac{1}{3} = \frac{3}{9}$

$\frac{3}{9}$ is less than $\frac{3}{4}$.

So, $\frac{1}{3} < \frac{3}{4}$.

Use a benchmark of $\frac{1}{2}$.



$\frac{3}{4} > \frac{1}{2}$
$\frac{1}{3} < \frac{1}{2}$

So, in order from greatest to least: $\frac{3}{4}, \frac{1}{2}, \frac{1}{3}$

Contents

Chapter Wrap-Up

Fractions and Mixed Numbers

Operations Involving Fractions and Mixed Numbers

Adding and Subtracting Like Fractions and Mixed Numbers

$\frac{4}{8} + \frac{1}{8} = \frac{5}{8}$

$3\frac{2}{5} + 1\frac{1}{5} = 4\frac{2}{5} + \frac{1}{5}$

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

$\frac{6}{12} - \frac{5}{12} = \frac{1}{12}$

$6 - 2\frac{3}{4} = 4 - \frac{3}{4}$

$= 3\frac{4}{4} - \frac{3}{4}$

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

Multiplying Fractions and Whole Numbers

$\frac{2}{5} = 2 \times \frac{1}{5}$

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

$= 6 \times \frac{1}{5}$

$= \frac{6}{5}$

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

or

$3 \times \frac{2}{5} = \frac{3 \times 2}{5}$

$= \frac{6}{5}$

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

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Chapter Wrap-Up

CHAPTER WRAP-UP

How do you find the perimeter and area of a rectangle or square using a formula? How do you find an unknown side of a rectangle or square, given its area or perimeter?

Area and Perimeter

Use Formula

Perimeter of a rectangle
= (2 × Length) + (2 × Width)
= 2 × (Length + Width)

Area of a rectangle
= Length × Width

Area of a square
= Length of side × Length of side

Find the unknown side

To find the length of one side of a rectangle given the perimeter and the other side:

Method 1

Length + Width = Perimeter ÷ 2

Method 2

Length + Length
= Perimeter − Width − Width

To find the length of a side of a square given the perimeter:

Length of a side = Perimeter ÷ 4

To find the length of one side of a rectangle given the area and the other side:

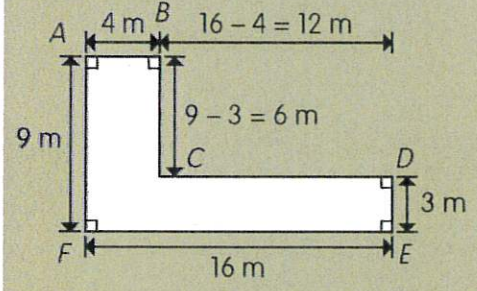
Length = Area ÷ Width

To find the length of a side of a square given the area:

Length of side × Length of side = Area

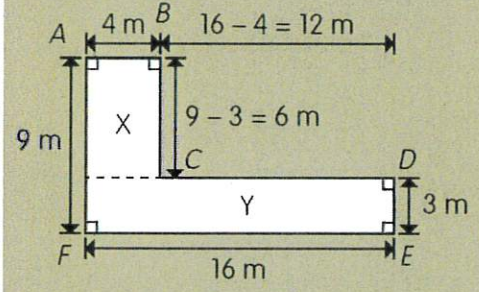
Composite Figure

To find the perimeter of a composite figure, first find the unknown lengths. Then, find its perimeter.



Perimeter = 9 + 4 + 6 + 12 + 3 + 16
= 50 m

To find the area of a composite figure, first divide the composite figure into rectangle(s) and/or square(s). Then, find its area.



Area of X = 6 × 4
= 24 m²

Area of Y = 16 × 3
= 48 m²

Area of the figure = 24 + 48
= 72 m²

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Chapter Wrap-Up

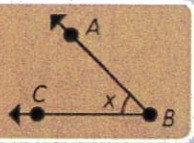
CHAPTER WRAP-UP

How can you measure and draw angles? How can you draw perpendicular and parallel line segments?

Angles

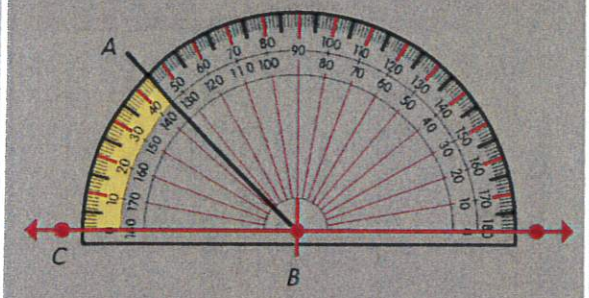
Naming Angles

Name the angle at vertex B as $\angle ABC$, $\angle CBA$, or $\angle x$.

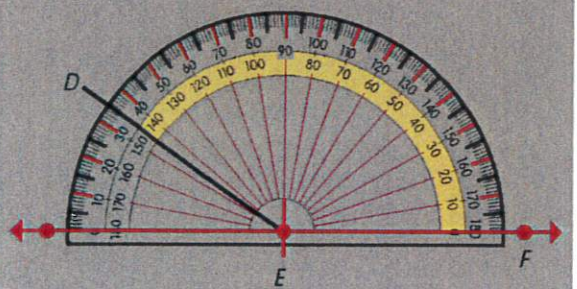


Measuring and Drawing Angles

You can use a protractor to measure and draw angles.
The measure of $\angle ABC$ is 45°.



The measure of $\angle DEF$ is 145°.



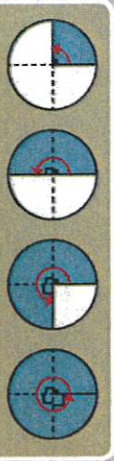
Relating Turns and Right Angles

A $\frac{1}{4}$-turn is one right angle or 90°.

A $\frac{1}{2}$-turn is two right angles or 180°.

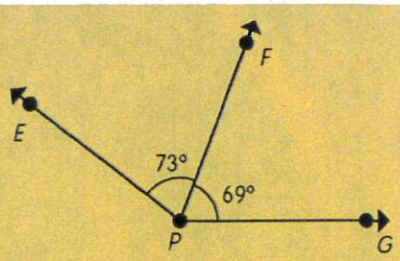
A $\frac{3}{4}$-turn is three right angles or 270°.

One full turn is four right angles or 360°.



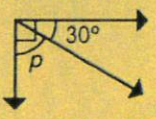
Relating Turns and Right Angles

The measures of angles that share a side can be added.

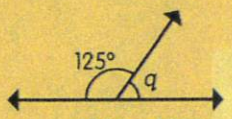


$m\angle EPF + m\angle FPG = m\angle EPG$

You can use addition or subtraction to find unknown angles.



$m\angle p = 90° - 30°$
$= 60°$



$m\angle q = 180° - 125°$
$= 55°$

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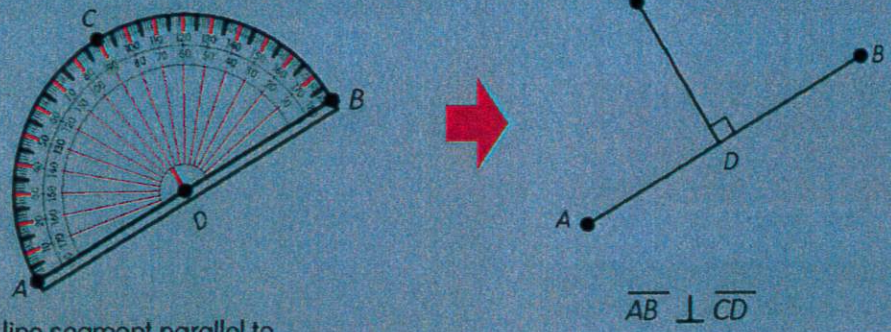
Chapter Wrap-Up

Drawing Perpendicular and Parallel Line Segments

Draw a line segment perpendicular to a given line segment

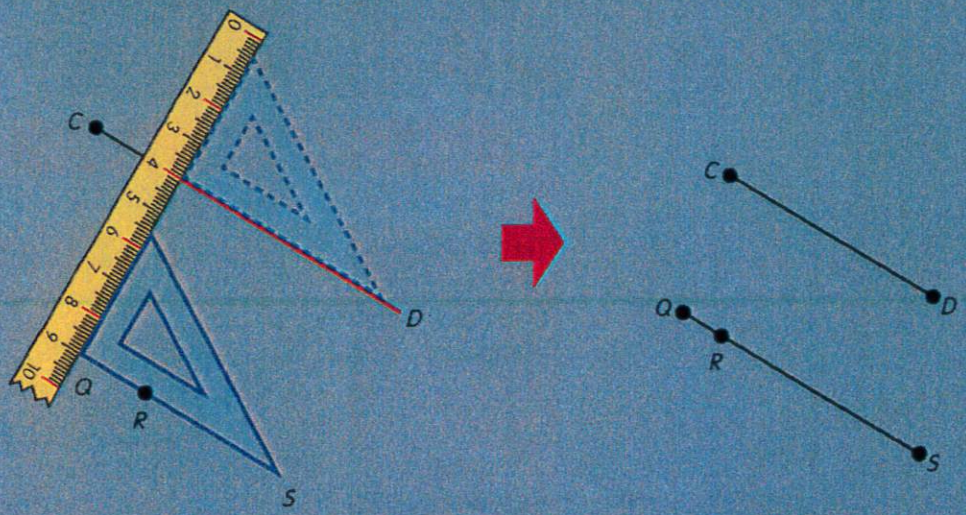
- through a point on the given line segment (use a drawing triangle and protractor).
- through a point not on the given line segment (use a drawing triangle).



$\overline{AB} \perp \overline{CD}$

Draw a line segment parallel to

- a given line segment.
- a given line segment and passing through a given point.



$\overline{QS} \parallel \overline{CD}$

Chapter Wrap-Up

CHAPTER WRAP-UP

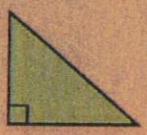
How do you sort and classify polygons? How can you identify symmetric shapes and patterns?

Polygons

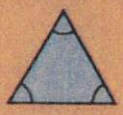
Classifying Triangles

You can classify triangles by their angle measures.

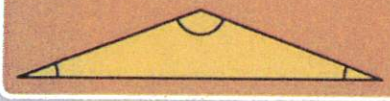
A right triangle has one right angle.



An acute triangle has three acute angles.

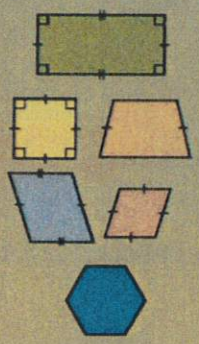
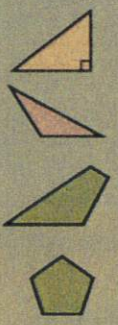


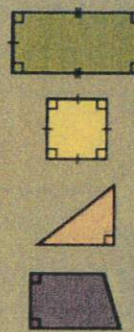
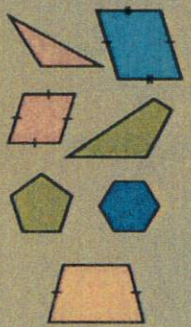
An obtuse triangle has one obtuse angle.



Classifying Polygons

You can classify polygons in different ways. Example:

At least one pair of parallel sides	No parallel sides
	

At least one right angle	No right angles
	

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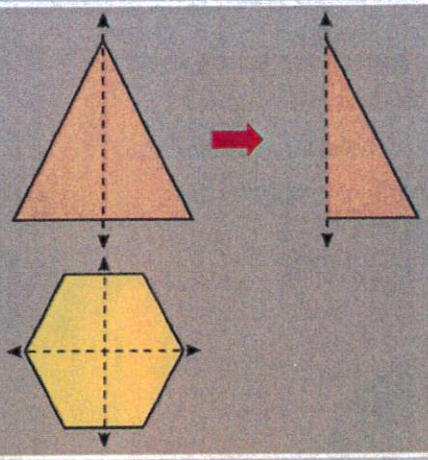
Chapter Wrap-Up

Symmetry

Line Symmetry

The two parts match each other exactly. So, the dotted line is along a line of symmetry.

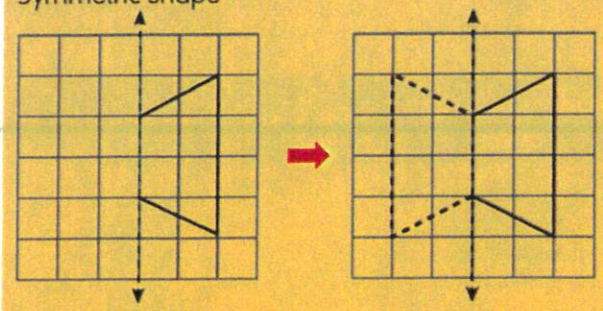
A figure can have more than one line of symmetry.



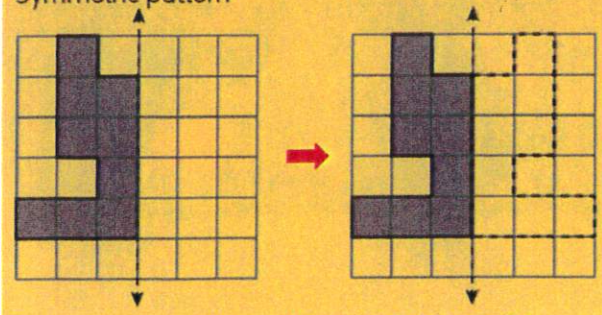
Making Symmetric Shapes and Patterns

To complete a symmetric shape or pattern given a line of symmetry, and half of the shape or pattern.

Symmetric shape



Symmetric pattern



To create symmetric patterns on grid paper.