Name: Date:

Large Numbers

comparing and ordering large numbers

Comparing Numbers

Compare the digits in the hundred thousands column first. The number with the greatest digit is the greatest. If the digits are the same, compare the digits in the ten thousands column, and so on.

Put the numbers in the place-value chart. Then put them in order.

1. 473 684, 297 693, 486 784, 468 732

Thousands			Hundreds	Tens	Ones
Hundreds	Tens	Ones			

greatest

least

2. 940 685, 946 085, 496 805, 468 095

Thousands			Hundreds	Tens	Ones
Hundreds	Tens	Ones			

least

greatest

Put the numbers in order.

3. 386 524, 836 254, 368 254, 863 425

   greatest to least: _____

4. 700 603, 760 003, 706 030, 607 030

   least to greatest: _____

Name: Date:

Large Numbers

writing large numbers in different forms with the help of a place-value chart

Complete the place-value chart. Then write the numbers in different forms.

	Thousands			Hundreds	Tens	Ones
	Hundreds	Tens	Ones			
A 453 942	4	5	3	9	4	2
B 600 281						
C 301 065						
D 420 009						

A
- 4 hundred thousands 5 ten thousands 3 thousands 9 hundreds 4 tens 2 ones
- 400 000 + 50 000 + _____
- four hundred _____

B
- _____
- _____
- _____

C
- _____
- _____
- _____

D
- _____
- _____
- _____

Name: Date:

Addition and Subtraction

adding and subtracting whole numbers

Round each number to the nearest hundred to estimate each sum. Then find the exact answer.

1. ○○

	Estimate
224	200
475	
392	
+ 718	+

2. ○○

	Estimate
321	300
219	
356	
+ 142	+

Subtract. Then use addition to check the answers.

3.

	Check
13824	
− 7966	+ 7966

Add these two numbers. If the sum is 13 824, it means you did the subtraction correctly; otherwise, you need to do the subtraction again.

4. Check

45208
− 13645

5. Check

64529
− 18726

6. Check

38562
− 15371

7. Check

94258
− 36288

Name: Date:

Multiplication

multiplying 3-digit numbers by 2-digit numbers

Do the multiplication. Then solve the problem.

1.
$$\begin{array}{r} 221 \\ \times\ 67 \\ \hline \square\square\square\square \leftarrow 7 \times 221 \\ \square\square\square\square \leftarrow 60 \times 221 \\ \hline \square\square\square\square \end{array}$$

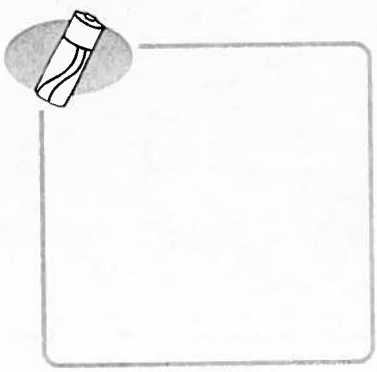
2.
$$\begin{array}{r} 472 \\ \times\ 29 \\ \hline \square\square\square\square \leftarrow 9 \times 472 \\ \square\square\square\square \leftarrow 20 \times 472 \\ \hline \square\square\square\square \end{array}$$

3.
$$\begin{array}{r} 762 \\ \times\ 58 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 358 \\ \times\ 61 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 844 \\ \times\ 35 \\ \hline \end{array}$$

6. Each box contains 255 batteries. How many batteries do 16 boxes hold in all?



_____

Estimate to check whether each product is "reasonable" or "unreasonable".

7. 649 x 52 = *23748* ( )

8. 324 x 67 = *21708* ( )

9. 162 x 89 = *14418* ( )

Name: Date:

Division

dividing 4-digit numbers by 2-digit numbers

Do the division. Then check the answers.

Steps to Check Answers

1st quotient x divisor

2nd answer from 1st + remainder

If the answer got in 2nd is the same as the dividend, it means you did the division correctly; otherwise, you need to do the division again.

1. □□□ R □

12 ⟌ 2789

□□

□□

□□

□□

□□

□

Check

1st _____ (quotient) x _____ (divisor) = _____

2nd _____ (from 1st) + _____ (remainder) = _____ (should be equal to 2789)

2. A 38 ⟌ 7235

B 19 ⟌ 8032

C 15 ⟌ 6083

D 92 ⟌ 1653

Check

A

_____ x _____ = _____

_____ + _____ = _____

B

C

D

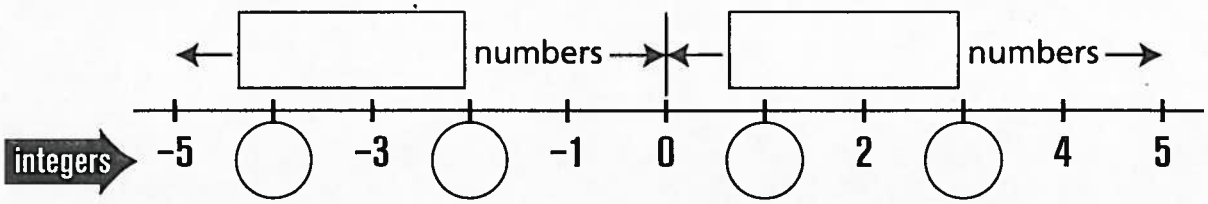
Name: Date:

Integers

using integers to describe different situations

Write the missing integers. Then write "positive" or "negative" in the boxes and fill in the blanks.

1.



2. _____ numbers are always shown with a minus sign (–). They are to the _____ (left / right) of 0 on a horizontal number line.

3. _____ numbers may or may not be shown with a plus sign (+). They are to the _____ (left / right) of 0 on a horizontal number line.

Write an integer to describe each situation.

4. Judy's dog gained 2 kg this year. _____

5. Leon has saved $15 this month. _____

6. The temperature is 30°C below 0°C. _____

7. The basketball team lost 4 points. _____

Write a situation that describes the given integer.

8. +10 cm _____

9. -3 L _____

10. -$12 _____

Name: Date:

Percent

relating fractions, decimals, and percents and finding a percent of a number

Write each as a fraction, a decimal, or a percent.

1. $\frac{45}{100}$ ____ ____

2. 82% ____ ____

3. 0.54 ____ ____

4. $\frac{9}{100}$ ____ ____

5. 36% ____ ____

6. 0.7 ____ ____

Find the amounts. Show your work.

Finding a Percent of a Number

Way 1: using equivalent fractions

20% of 50

Think: $20\% = \frac{\square}{100} = \frac{\square}{10} = \frac{\square}{50}$ (x 5, x 5)

So, 20% of 50 = ____

We may use either way to find the amounts.

Way 2: using multiplication

20% of 50

Think: $20\% = \frac{\square}{100} = \frac{\square}{50}$

$\frac{1}{10}$ of 50 = $\frac{50}{10}$ = ____

$\frac{2}{10}$ of 50 = 2 x ____ = ____

So, 20% of 50 = ____

7. 30% of 50

= ____

8. 5% of 20

= ____

9. 40% of 40

= ____

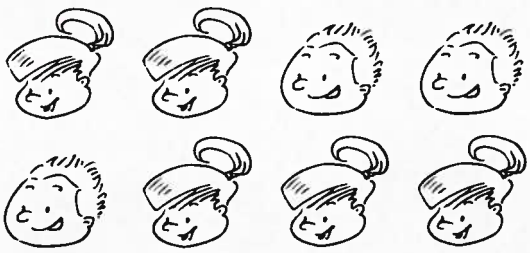
Name: Date:

Ratio

comparing figures using ratio

Look at each group of pictures. Write the ratios.

1.



a. Boys to Girls = _____

b. Girls to All = _____

c. Boys to All = _____

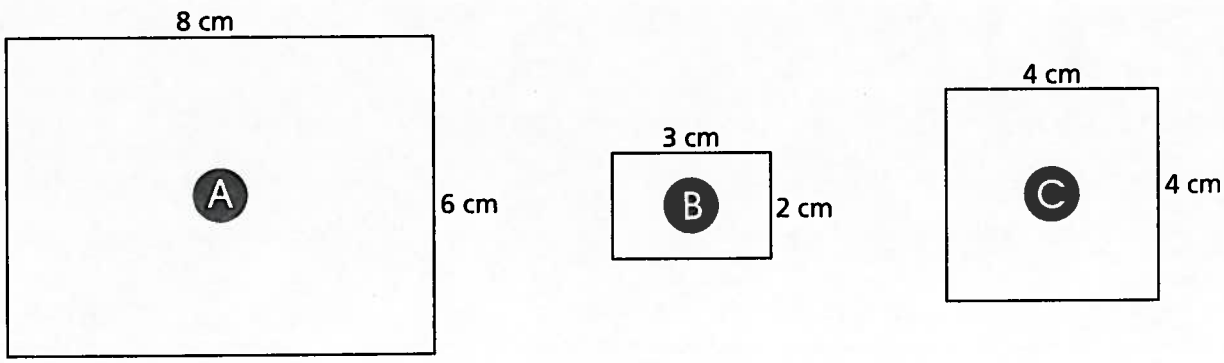
2.

a. ● to ○ = _____

b. ● to All = _____

c. All to ○ = _____

3.



a. Perimeter of A: Perimeter of B = _____

b. Perimeter of A: Perimeter of C = _____

c. Area of B: Area of C = _____

d. Area of C: Area of A = _____

Name: Date:

Order of Operations

following the order of operations to solve expressions

Follow the order of operations to find the answers. Circle the parts to be done first.

Solving an Expression

1st Do the operations in brackets.

2nd Do "x" or "÷" in order from left to right.

3rd Do "+" or "–" in order from left to right.

Do "x" first.

e.g. 16 – **2 x 3**

= 16 – 6

= 10

Do the part inside the brackets first.

e.g. **(16 – 2)** x 3

= 14 x 3

= 42

1. 34 – (12 ÷ 3)

= _____

= _____

2. 9 + 5 x 2

= _____

= _____

3. (2 + 3) x 6

= _____

= _____

4. 18 + 6 ÷ 2

= _____

= _____

5. 5 x 6 ÷ 3

= _____

= _____

6. 9 x (8 – 3)

= _____

= _____

7. 52 + 6 x 7 = _____

8. 26 – 14 ÷ 2 = _____

Add brackets to make each number sentence true.

9. 36 + 3 ÷ 3 = 13

10. 7 x 2 + 1 = 21

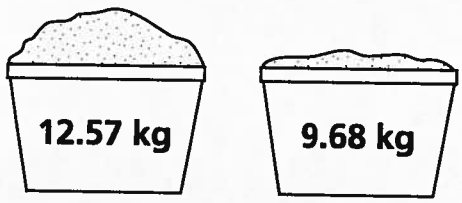
Name: Date:

Adding and Subtracting Decimals

adding and subtracting decimals to hundredths

Find the sums and differences.

1.



sum

$$\begin{array}{r} 12.57 \\ +\ \ 9.68 \\ \hline \square\square.\square\square \end{array}$$

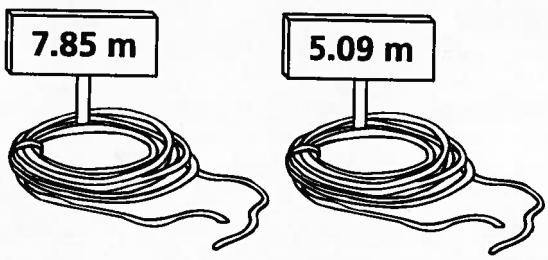
align

difference

$$\begin{array}{r} 12.57 \\ -\ \ 9.68 \\ \hline \square\square.\square\square \end{array}$$

align

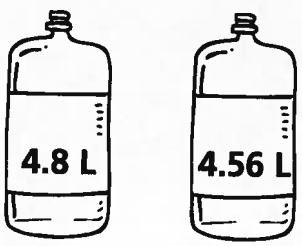
2.



sum

difference

3.



sum

difference

Find the answers.

4. $6.27 + 8.74 =$ _____

5. $3.46 - 0.88 =$ _____

6. $5.63 + 1.9 =$ _____

7. $48.6 - 32.74 =$ _____

8. $10.61 - 4.5 =$ _____

9. $3.57 + 42.6 =$ _____

Name: Date:

Decimals

comparing, ordering, and rounding decimals

Put the decimals in order from greatest to least.

Comparing Decimals

Compare the whole number parts first. The one with the greatest whole number is the greatest. If they are the same, compare the digits in the tenths column. The one with the greatest digit is the greatest, and so on.

e.g. Compare 25.63, 53.63, and 25.49.

25.63
53.63
25.49

53 is the greatest, so 53.63 is the greatest.

25.**6**3
25.**4**9

6>4, so 25.63 is greater.

greatest to least: 53.63, 25.63, 25.49

1. 61.37 61.34 61.56 _____
2. 24.69 42.69 24.96 _____
3. 207.5 20.75 205.7 _____
4. 63.2 6.32 23.6 _____
5. 90.54 54.9 54.09 _____

Round each decimal to the nearest tenth.

6. 9.53 _____
7. 13.49 _____
8. 10.37 _____
9. 60.53 _____
10. 19.86 _____
11. 9.74 _____
12. 6.55 _____
13. 14.08 _____

Name: Date:

Multiplying and Dividing Decimals

multiplying and dividing decimals with whole numbers

Do the multiplication and division.

1.
$$\begin{array}{r} 3.9 \\ \times \quad 6 \\ \hline \square\square.\square \end{array}$$
← 1 decimal place
← 1 decimal place

7.
$$3\overline{)4.5}$$
$\square.\square$ ← *The decimal point is right above the one in the dividend.*

2. 4.56 x 7 = _____

3. 12.5 x 9 = _____

4. 8.9 x 16 = _____

5. 0.8 x 24 = _____

6. 13.71 x 8 = _____

8. 57.06 ÷ 9 = _____

9. 11.2 ÷ 14 = _____

10. 139.2 ÷ 8 = _____

11. 65.12 ÷ 11 = _____

Solve the problems.

12. Each piece weighs: _____ = _____

13. 9 pieces weigh: _____ = _____

14. 6 boxes cost: _____ = _____

15. Each piece costs: _____ = _____

Name: Date:

Patterns in Multiplication

using patterns to do multiplication

Use mental math to multiply.

Multiplying in a Smart Way

Multiply: 22 x 7 x 5

Think 22 x 5 x 7 ← *Rearrange.*

= 110 x 7 ← *Multiply the numbers with a product that has a "0" in its ones place first.*

= 770

Multiply: 26 x 49

Think 26 x 49 is 26 less than 26 x 50.

26 x 50 = 1300

1300 – 26 = 1274

So, 26 x 49 = 1274

1. 24 x 3 x 5

= _____

= _____

= _____

2. 5 x 44 x 6

= _____

= _____

= _____

3. 15 x 9 x 4

= _____

= _____

= _____

4. 150 x 7 x 4 = _____

5. 18 x 2 x 5 = _____

6. 21 x 5 x 6 = _____

7. 39 x 8 x 5 = _____

8. 40 x 13 = _____

   a. 39 x 13 = _____

   b. 41 x 13 = _____

9. 28 x 60 = _____

   a. 28 x 61 = _____

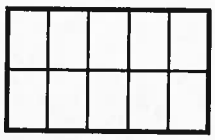
   b. 28 x 59 = _____

Name: Date:

Fractions

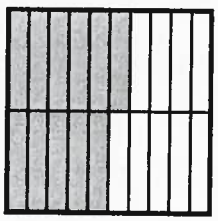
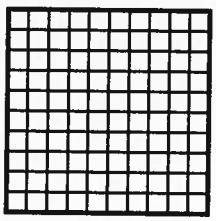
exploring equivalent fractions and relating fractions to decimals

Colour the correct number of parts to find an equivalent fraction and write it on the line. Then write the fraction as a decimal in the boxes.

1.  

So, $\frac{2}{5} = \square$

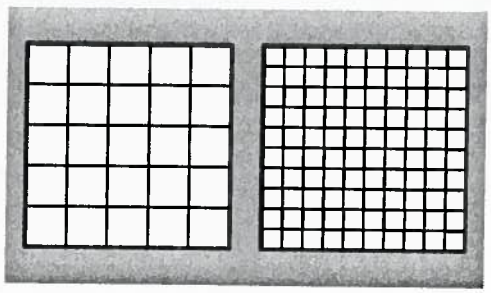
$\frac{2}{5} = \_\_\_\_ = \square$

2.  

So, $\frac{11}{20} = \square$

$\frac{11}{20} = \_\_\_\_ = \square$

Write an equivalent fraction with a denominator of 10 or 100 for each fraction. Then write it as a decimal. The diagrams on the right might help.



3. $\frac{3}{5} = \_\_\_\_ = \square$

4. $\frac{9}{20} = \_\_\_\_ = \square$

5. $\frac{1}{4} = \_\_\_\_ = \square$

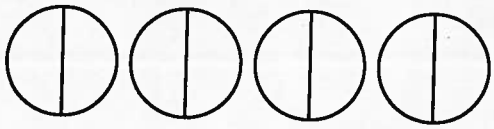
6. $\frac{1}{2} = \_\_\_\_ = \square$

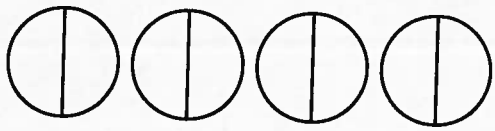
7. $\frac{4}{5} = \_\_\_\_ = \square$

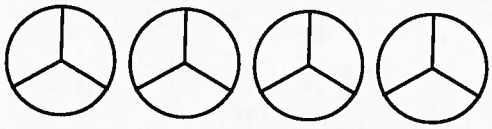
8. $\frac{17}{50} = \_\_\_\_ = \square$

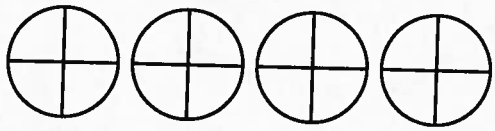
Worksheet **Mixed / Improper Fractions** **F-10 C (con't)**

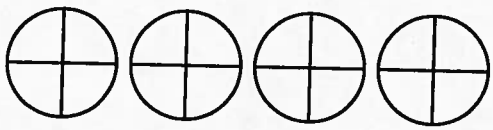
3. Shade one piece at a time until you have shaded the amount of pie given in bold. **There may be more pies than you need:**

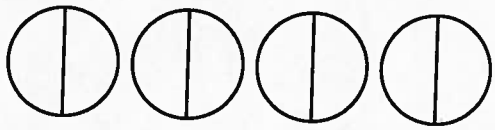
a) $\frac{5}{2}$ 

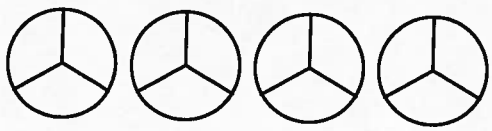
b) $\frac{7}{2}$ 

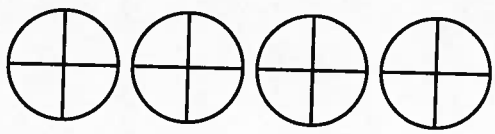
c) $\frac{8}{3}$ 

d) $\frac{13}{4}$ 

e) $\frac{9}{4}$ 

f) $\frac{3}{2}$ 

g) $\frac{7}{3}$ 

h) $\frac{15}{4}$ 

4. Draw these <u>improper</u> fractions: HINT: Draw one pie at a time and colour in the pieces. Keep drawing pies and shading pieces until you have shaded the correct amount of pie.

$\frac{5}{2}$

$\frac{9}{2}$

$\frac{7}{4}$

$\frac{9}{4}$

$\frac{5}{3}$

$\frac{11}{8}$

Name: Date:

Prime and Composite Numbers

identifying numbers as prime or composite numbers

Fill in the blanks. List out all the factors of each number. Then tell whether it is a prime or composite number.

1. **Prime Number**: a number with only ____ factors (1 and itself)
   e.g. The factors of 5: 1 and 5
   So, 5 is a prime number.

   Composite Number: a number with more than ____ factors
   e.g. The factors of 4: 1, 2, and 4
   So, 4 is a composite number.

2. The factors of 42:

   _____

   42 : a _____ number

3. The factors of 20:

   _____

   20 : a _____ number

4. The factors of 19:

   _____

   19 : a _____ number

5. The factors of 9:

   _____

   9 : a _____ number

Write the numbers.

6. 2 prime numbers that are between 15 and 20 _____
7. 2 composite numbers that are greater than 20 _____
8. a prime number that is an even number _____

Name: Date:

Common Multiple

finding the common multiples of a set of numbers

Mark the multiples of the numbers. Then fill in the blanks.

1.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

 – multiples of 2

 – multiples of 3

2. common multiples of 2 and 3: _____
(the numbers marked "  ") _____

3. the least common multiple of 2 and 3: _____

List the first 6 multiples of each pair of numbers. Then find their common multiples and the least common multiple (L.C.M.).

4. **4**: _____ (1 x 4), _____ (2 x 4), _____ (3 x 4), _____ (4 x 4), _____ (5 x 4), _____ (6 x 4)

6: _____ (1 x 6), _____ (2 x 6), _____ (3 x 6), _____ (4 x 6), _____ (5 x 6), _____ (6 x 6)

4 and 6
common multiples:
_____
L.C.M.:
_____

5. **5**: _____ (1 x 5), _____ (2 x 5), _____ (3 x 5), _____ (4 x 5), _____ (5 x 5), _____ (6 x 5)

10: _____ (1 x 10), _____ (2 x 10), _____ (3 x 10), _____ (4 x 10), _____ (5 x 10), _____ (6 x 10)

5 and 10
common multiples:
_____
L.C.M.:
_____

Name: Date:

Number Patterns

matching the number patterns with the pattern rules, finding the next two terms, and writing pattern rules for Input/Output machines

Match the pattern rules with the number patterns. Write the letters. Then find the next 2 terms.

1. ☐ 6, 18, 42, 90, _____ , _____
2. ☐ 5, 9, 21, 57, _____ , _____
3. ☐ 2, 5, 11, 23, _____ , _____
4. ☐ 52, 98, 190, 374, _____ , _____
5. ☐ 128, 192, 288, 432, _____ , _____

A x 2, + 1
B + 3, x 2
C – 2, x 3
D – 3, x 2
E ÷ 2, x 3

Find the outputs. Write the pattern rules for the input and the output. Then find the 10th input and output.

6. x 2 → + 3

Input	Output
5	
7	
9	
11	

Pattern rule
- input: _____
- output: _____

The 10th: _____ (input) _____ (output)

7. – 4 → x 3

Input	Output
12	
13	
14	
15	

Pattern rule
- input: _____
- output: _____

The 10th: _____ (input) _____ (output)

Name: Date:

Solve Problems Using Patterns

solving problems using patterns

Follow the patterns to find the correct number of marbles in the boxes. Write the pattern rules. Then answer the questions.

1. Joe puts 8 marbles in box 1; 13 in box 2; 23 in box 3; and 43 in box 4.

Box	No. of Marbles
1	8
2	13
3	23
4	43
5	
6	
7	

2. Pattern rule:

_____

_____

3. How many marbles are there in box 9?

_____

4. Sue has 386 marbles in box 1; 194 in box 2; 98 in box 3; and 50 in box 4.

Box	No. of Marbles
1	
2	
3	
4	
5	
6	
7	

5. Pattern rule:

_____

_____

6. Which box contains 5 marbles?

_____

Name: Date:

Solve Problems Using Patterns

identifying patterns in problems and writing pattern rules to do prediction

Look at the poster. Complete the table and answer the questions.

1.

No. of orders	No. of chicken wings	Cost ($)
1		
2		
3		
4		
5		
6		

2. Write a pattern rule for the number of chicken wings.

_____

3. Write a pattern rule for the cost.

_____

4. How many chicken wings are there in

   a. 10 orders? _____

   b. 13 orders? _____

5. How many orders of chicken wings can you buy

   a. with $24? _____

   b. with $52? _____

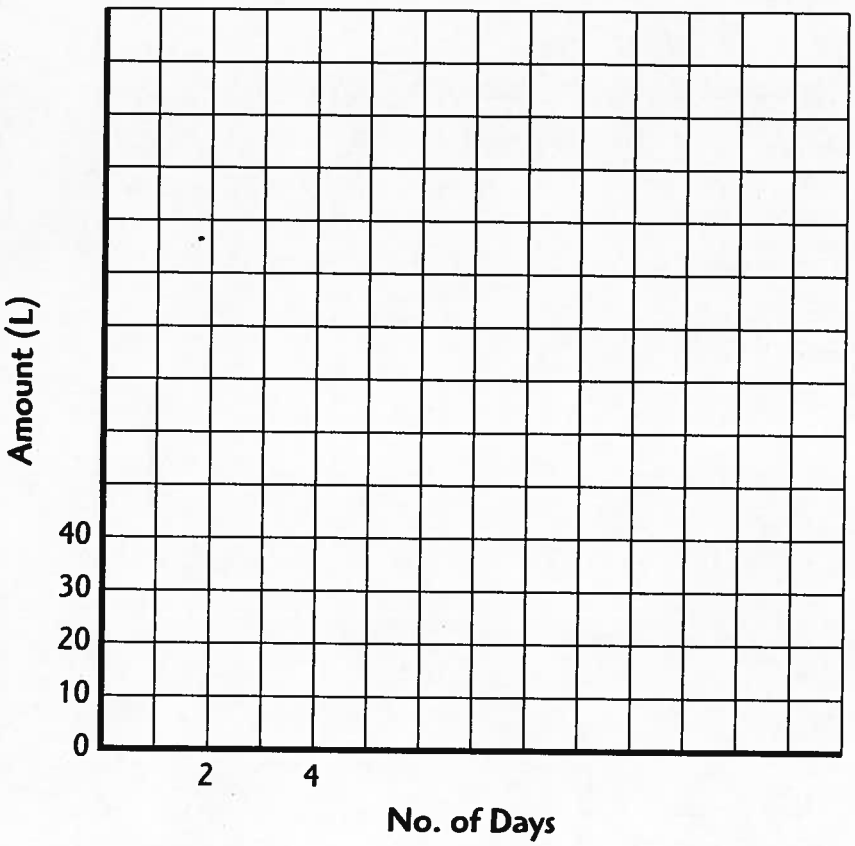
Name: Date:

Number Patterns

using graphs to show patterns

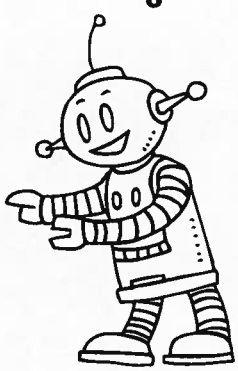
Complete the line graph to show the data in the table. Then answer the questions.

1. **Amount of Gasoline Sonia the Robot Consumed**



Sonia the Robot

No. of Days	Amount of Gasoline (L)
0	0
2	20
4	40
6	60
8	80



2. Write the pattern rule for the amount of gasoline consumed.

_____

3. How much gasoline does Sonia consume in 11 days?
(Hint: Extend the line on the graph.)

_____

4. Predict the number of days Sonia can operate if it takes in 140 L of gasoline. Explain.

_____

Name: Date:

Number Patterns

finding numbers, terms, or operations for Input/Output machines

Complete the table for each Input/Output machine. Then write the pattern rule for each group of terms.

1. x 3

Input	Output
3	9
4	12
5	
6	

The pattern rule for input numbers: _____

The pattern rule for output numbers: _____

2. − 10

Input	Output
1254	1244
1154	
1054	
954	

The pattern rule for input numbers: _____

The pattern rule for output numbers: _____

Find the operation in each machine. Then continue the pattern.

3.

Input	Output
150	210
170	230

4.

Input	Output
425	85
450	90

Name: Date:

Number Patterns

finding pattern rules and terms of number patterns

Match the pattern rules with the correct number patterns.

A **900, 850, 750, 600, 400**

B **4, 2, 7, 5, 10, 8, 15**

C **100, 50, 60, 30, 40, 20**

D **4, 9, 7, 12, 10, 15, 13**

E **900, 850, 800, 750, 700**

F **100, 150, 210, 280, 360**

1. ☐ Start at 4. Alternately add 5, then subtract 2.

☐ Start at 100. Add 50. Increase the number you add by 10 each time.

☐ Start at 900. Subtract 50 each time.

☐ Start at 100. Alternately divide by 2, then add 10.

Write the pattern rule. Then find the next 2 terms.

2. 16, 34, 29, 47, 42, 60, _____ , _____

Pattern rule: _____

3. 3, 6, 12, 24, 48, 96, _____ , _____

Pattern rule: _____

Name: Date:

Equations

using symbols or letters to represent unknown quantities and finding missing numbers in equations

Put a check mark in the box if it is an equation.

1. A $3 + 9 - 4$

   B $y + 1 = 3$

   C ♥ $x\ 2 = 16$

   D ▲ + ♥ $- 3$

   E $5 \times 9 = 45$

Equations

An equation is a mathematical statement showing two equal expressions.

e.g. $3 + 2 = 5$

$x - 1 = 2$

Find the missing number in each equation.

2. ▲ $+ 3 = 5$

   ▲ = _____

3. ■ $- 12 = 4$

   ■ = _____

4. ♥ $x\ 2 = 8$

   ♥ = _____

5. ● $\div 3 = 6$

   ● = _____

6. $5 + b = 12$

   b = _____

7. $8 - a = 1$

   a = _____

8. $3 \times m = 6$

   m = _____

9. $10 \div n = 2$

   n = _____

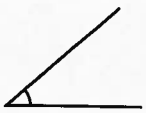
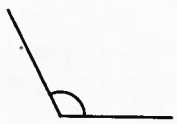
Name: Date:

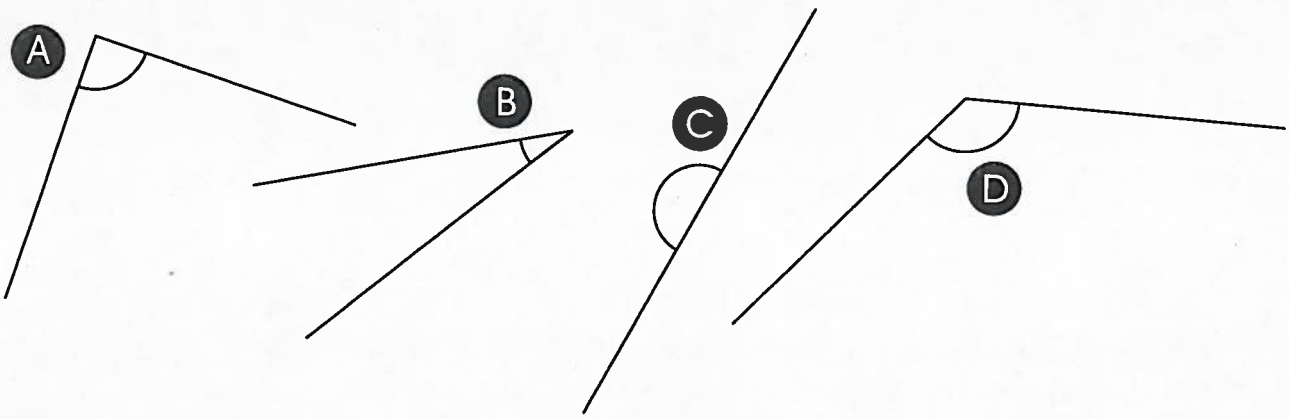
Angles

naming and constructing angles using a protractor

Name each angle. Then measure it with a protractor.

Naming Angles

Acute Angle	Right Angle	Obtuse Angle	Straight Angle
(angle < 90°)	(angle = 90°)	(90° < angle < 180°)	(angle = 180°)
			

1. 

A _____ ; _____ B _____ ; _____

C _____ ; _____ D _____ ; _____

Draw lines to join the dots. Then measure and record the size of each angle.

2. • •

3. • •

4. • •

Name: Date:

Angles

measuring angles to 360°

Name each angle. Measure and record the size of it. Then answer the question.

1.

A _____ angle ; _____

B _____ ; _____

C _____ ; _____

D _____ ; _____

E _____ ; _____

F _____ ; _____

G _____ ; _____

2. How many right angles have the same measure as a straight angle?

_____

Angles

acute angle
less than 90°

right angle
90°

obtuse angle
between 90° and 180°

straight angle
180°

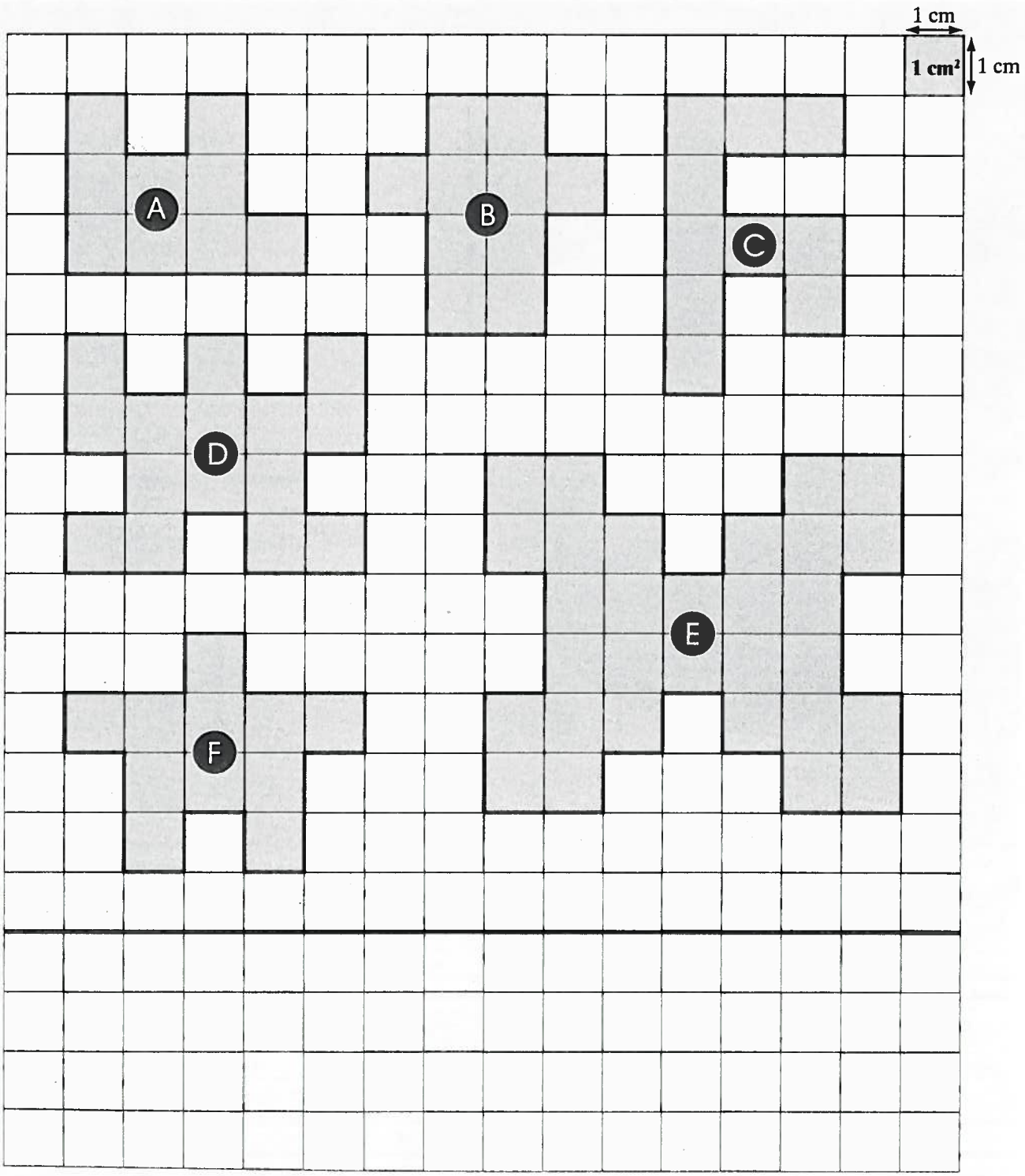
reflex angle
between 180° and 360°

Name: Date:

Perimeter and Area

finding perimeters and areas of irregular polygons using grids

Find perimeters and areas of each polygon. Then answer the questions.



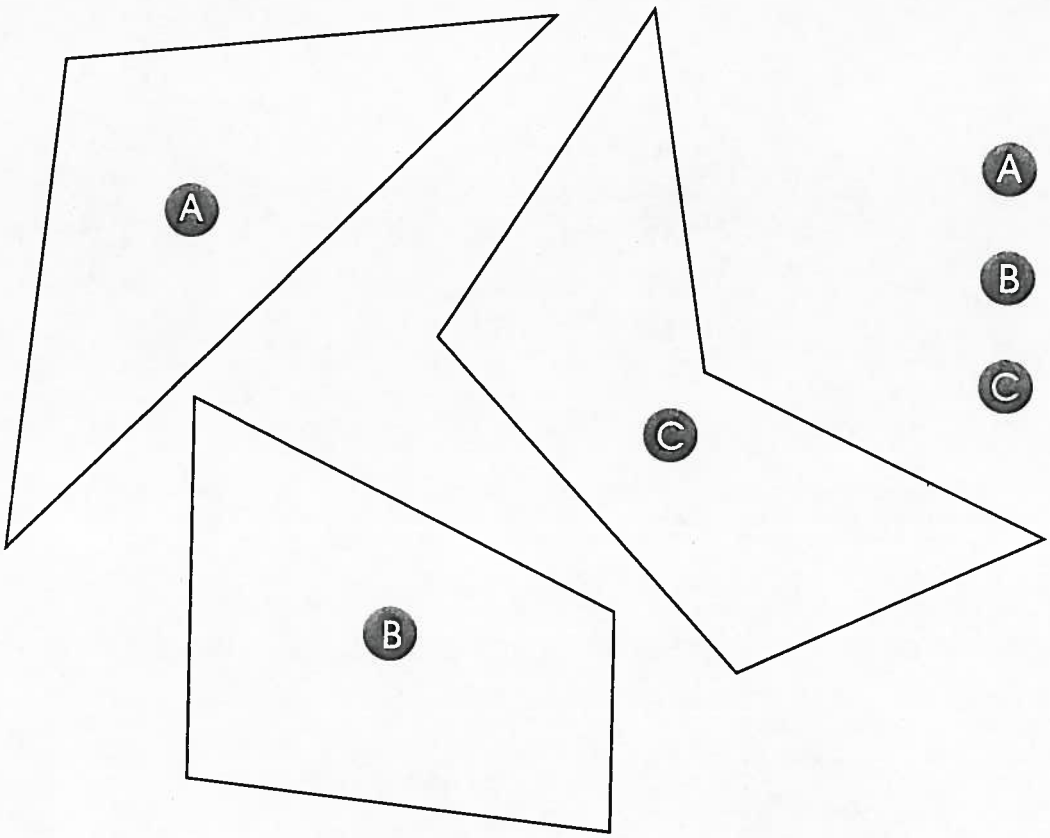
Name: Date:

Perimeter

measuring perimeters of polygons

Measure and record the sides of each polygon. Then find its perimeter.

1.



Perimeter

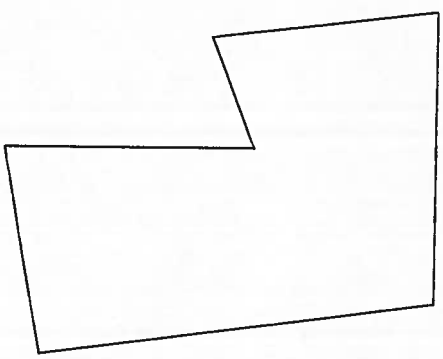
A _____

B _____

C _____

Find the perimeters of the polygons.

2.



perimeter: _____

3. a regular pentagon with 4.6 mm sides

perimeter: _____

4. a rhombus with 3.5 dm sides

perimeter: _____

1. (A) Perimeter: _____ (B) Perimeter: _____

   Area: _____ Area: _____

   (C) Perimeter: _____ (D) Perimeter: _____

   Area: _____ Area: _____

   (E) Perimeter: _____ (F) Perimeter: _____

   Area: _____ Area: _____

2. Which figure has the greatest perimeter?

   _____

3. Which figure has the least area?

   _____

4. If (B) is cut into two equal parts, what will the new perimeter and area be?

   _____

5. If Kevin moves (F) 2 squares up to combine with (D) to form a new figure, what will the perimeter and area of the new figure be?

   _____

6. Draw the following figures on the grid.

   - (G): a figure with a perimeter of 10 cm
   - (H): a figure with an area of 12 cm^2

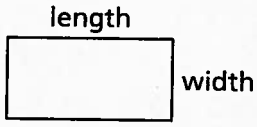
Name: Date:

Area

finding areas of rectangles using a formula

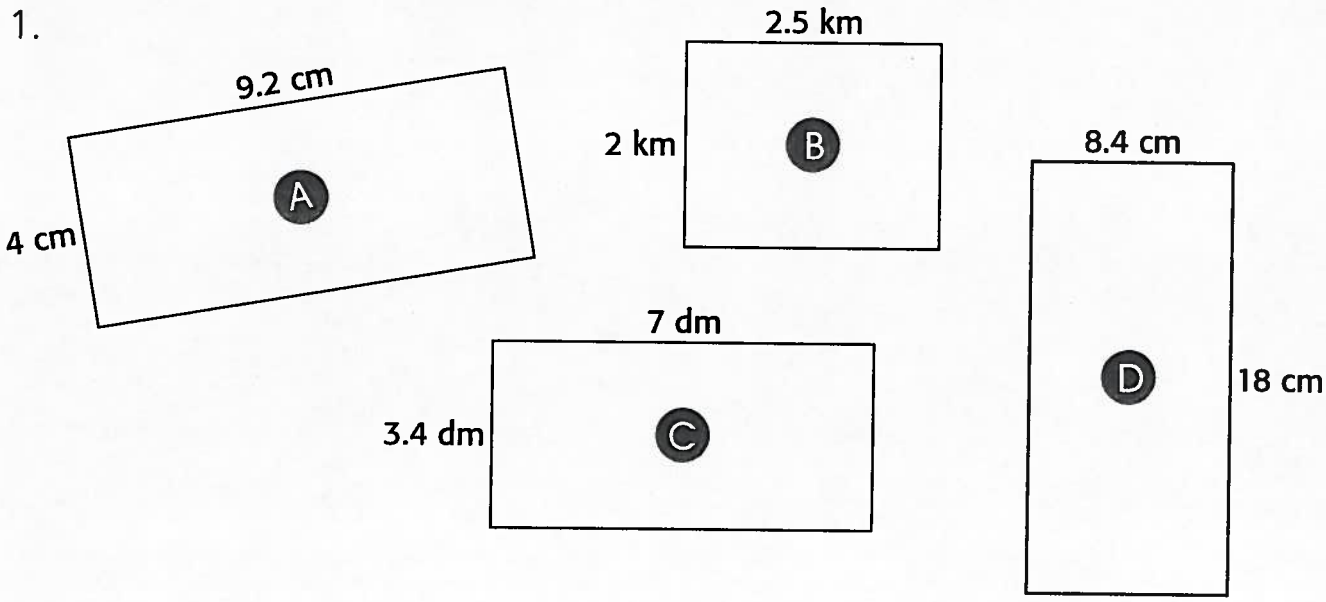
Area of a Rectangle

= length x width



Find the areas of the rectangles.

1.



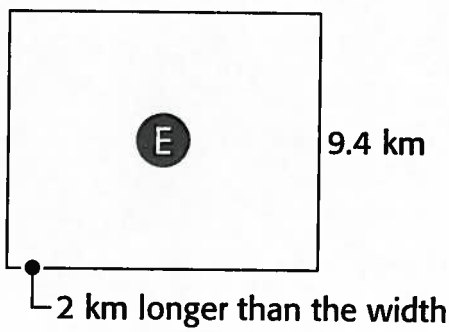
A: _____ x _____ = _____ (cm^2)

B: _____ = _____

C: _____ = _____

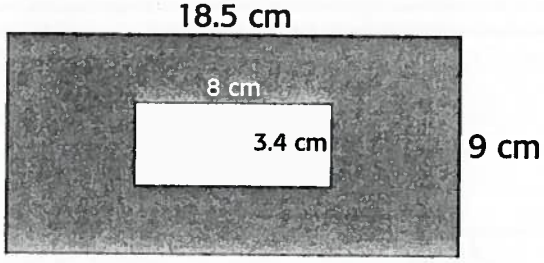
D: _____ = _____

E: _____ = _____



Find the area of the shaded part. Show your work.

2.



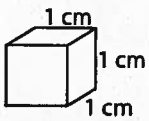
_____

Name: Date:

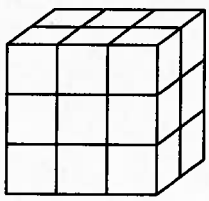
Volume

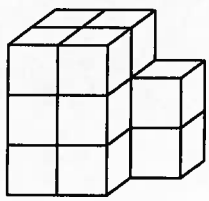
finding volumes of solids made with centimetre cubes

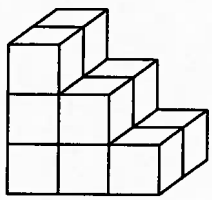
Find the volume of a centimetre cube. Then find the volume of each solid made with centimetre cubes.

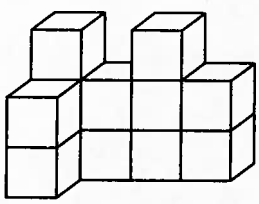
1. 

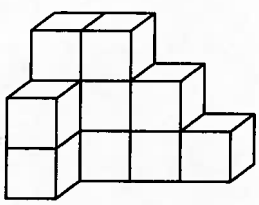
The volume of a centimetre cube is _____ cm^3.

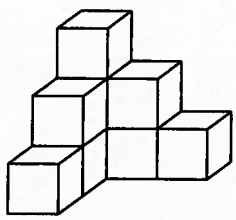
2. 
_____

3. 
_____

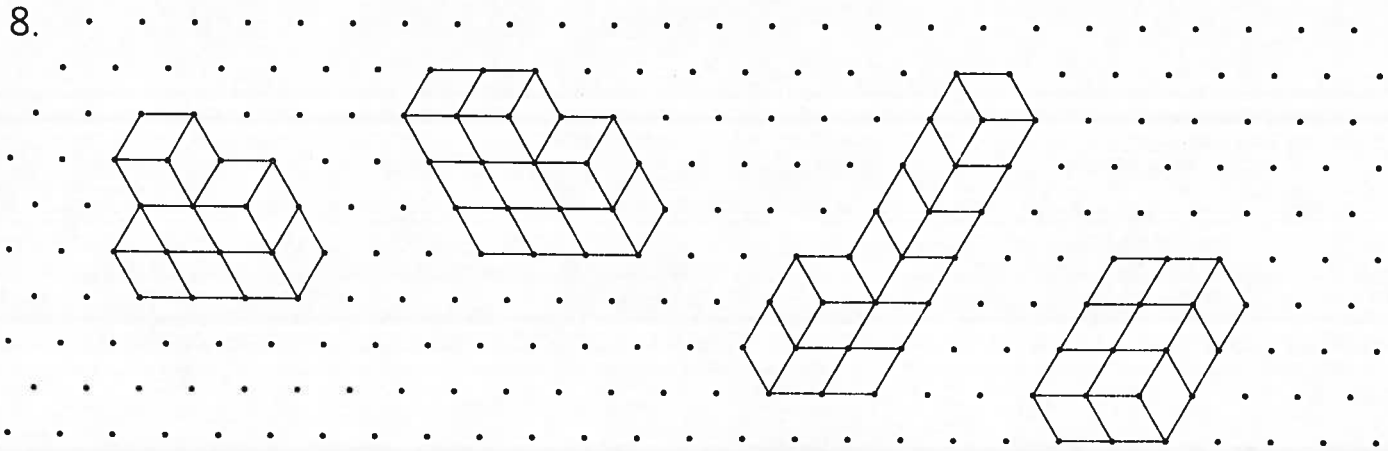
4. 
_____

5. 
_____

6. 
_____

7. 
_____

Colour each pair of solids that have the same volume using the same colour.

8. 

Name: Date:

Similar Figures

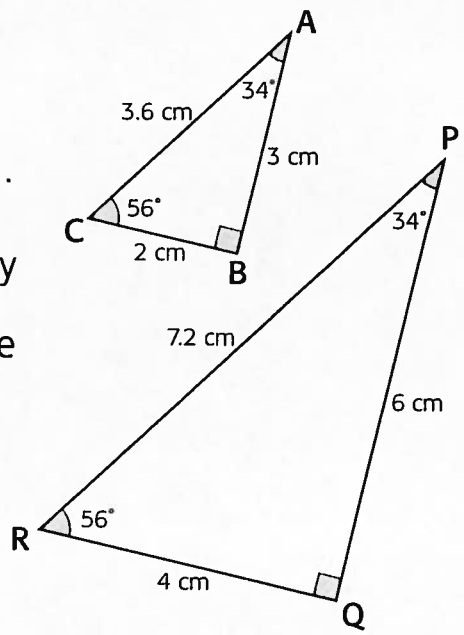
identifying similar figures

Fill in the blanks to complete the sentences. Then colour the similar figures with the same colour.

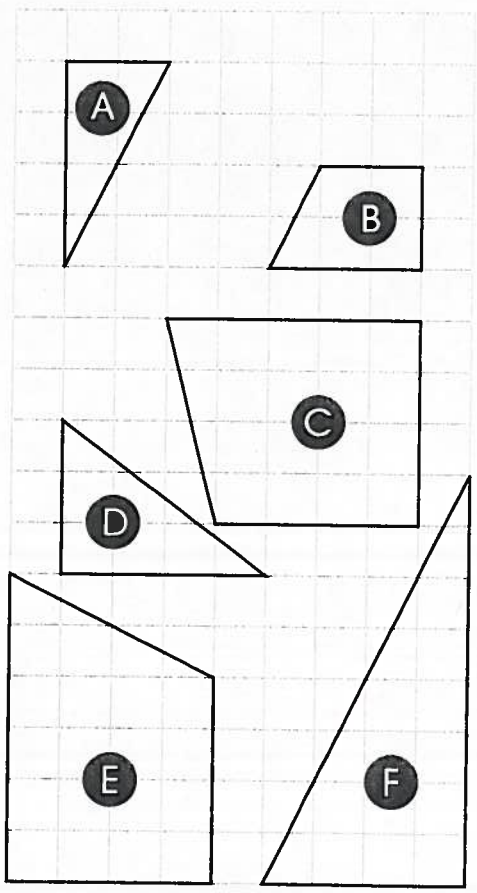
1. Any 2 figures are similar if

   - their corresponding angles are _____ . (equal / not equal)
   - each side length of one figure multiplied by the same number is _____ to the corresponding side length of the other figure. (equal / not equal)

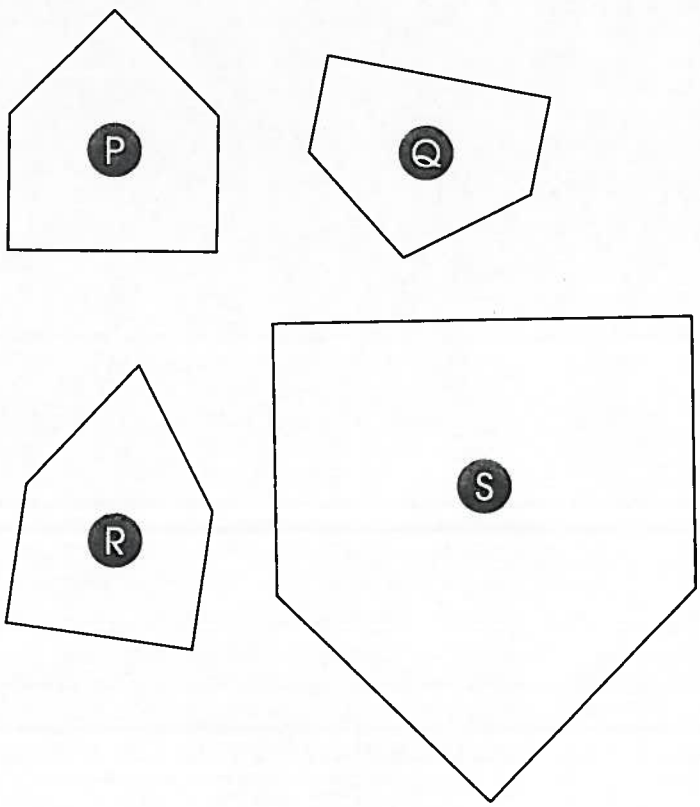
   So, △ABC is _____ to △PQR.



2.



3.



Name: Date:

Congruent Figures

identifying and finding congruent figures

Congruent Figures

Any 2 figures are congruent if they have the same shape and their corresponding sides and angles are equal.

Measure and record the angles and sides of each triangle. Then fill in the blanks.

1. ***Angle***

$\angle A =$ ____ $\angle P =$ ____

$\angle B =$ ____ $\angle Q =$ ____

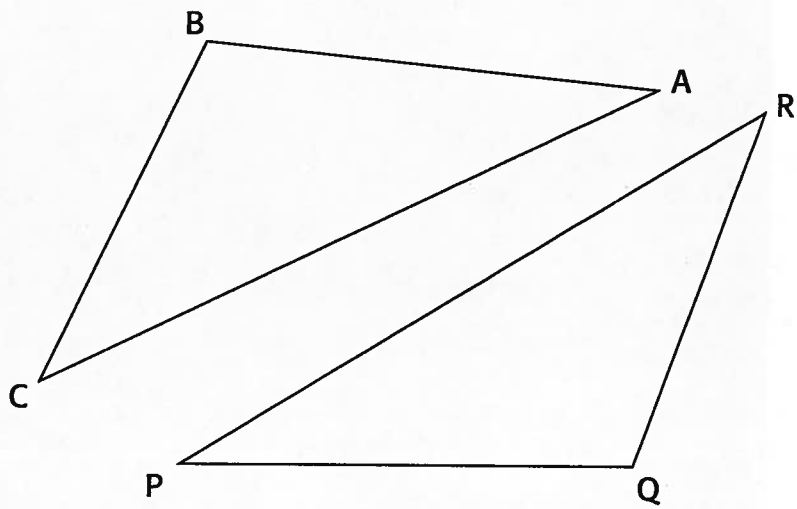
$\angle C =$ ____ $\angle R =$ ____

Side

AB = ____ PQ = ____

BC = ____ QR = ____

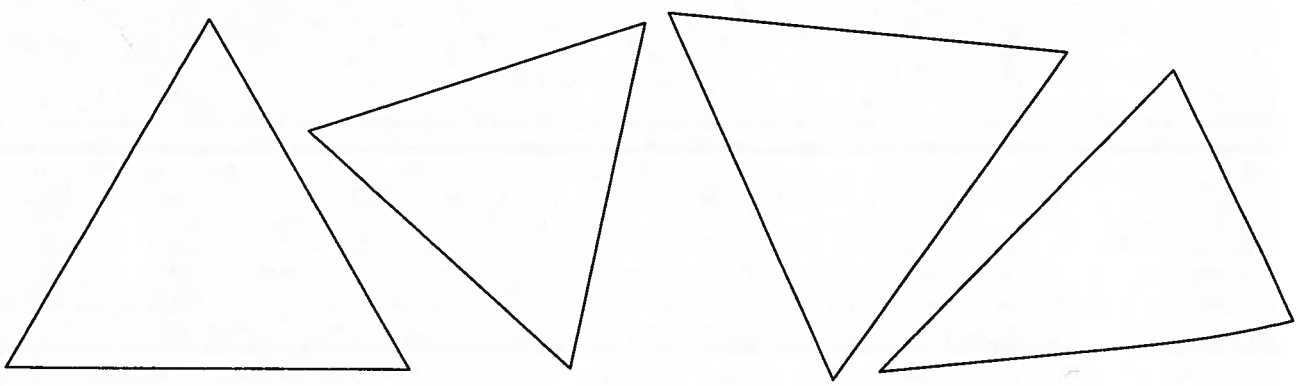
CA = ____ RP = ____



The corresponding angles and sides of these two triangles are the same, so they are _____ figures.

Measure and label the angles and sides of each triangle. Then colour the congruent triangles with the same colour.

2.



Name: Date:

Triangles

classifying triangles by their sides and angles

Complete the classification table. Then measure and record the sides and angles of each triangle. Name it in two ways.

1. Classification of Triangles

By sides:

equilateral triangle

_____ sides equal

isosceles triangle

_____ sides equal

scalene triangle

_____ sides equal

By angles:

acute triangle

all angles less than _____

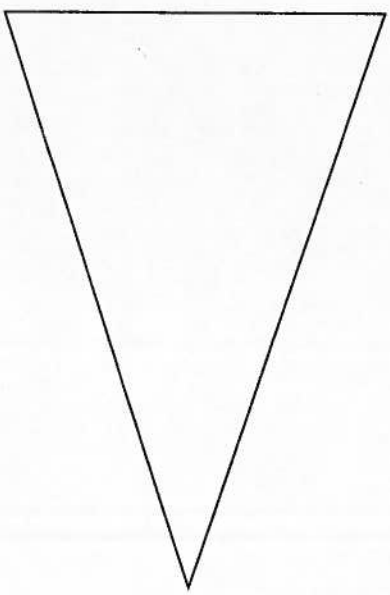
right triangle

with an angle of _____

obtuse triangle

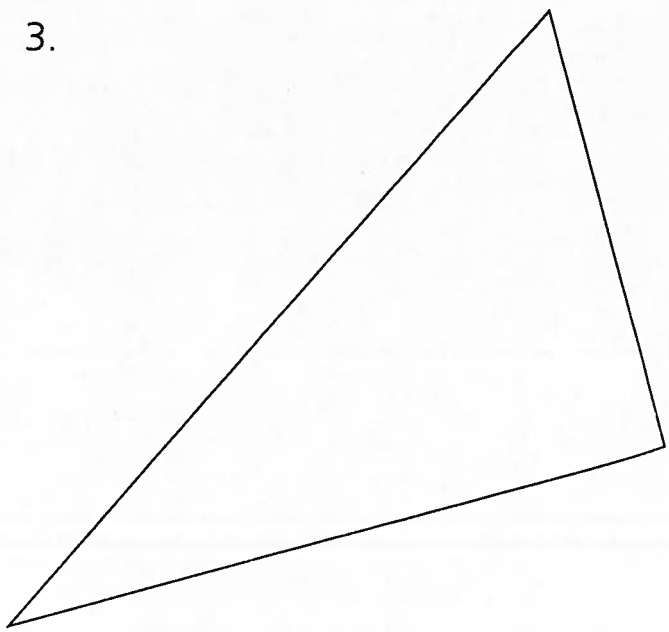
with an angle greater than _____

2.



- _____
- _____

3.



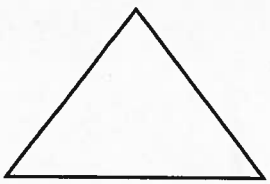
- _____
- _____

Name: Date:

Polygons

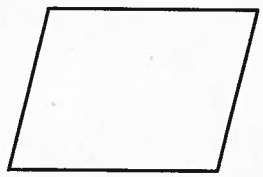
naming polygons in different ways

Write the number of sides of each polygon. Then name the polygon and draw another polygon of the same kind next to it.

1. 

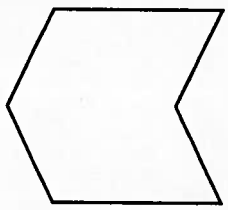
_____ sides

_____
name

2. 

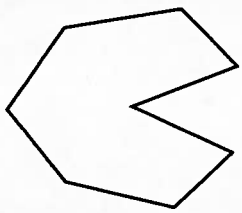
_____ sides

_____
name

3. 

_____ sides

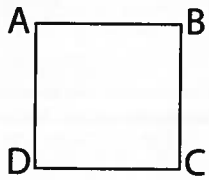
_____
name

4. 

_____ sides

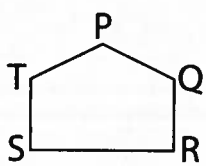
_____
name

Name the polygons by their vertices. Then name their sides.

5. 

Quadrilateral A ___ ___ D

Sides: AB, _____

6. 

_____

_____

Name: Date:

Coordinates

locating and plotting points on a coordinate grid

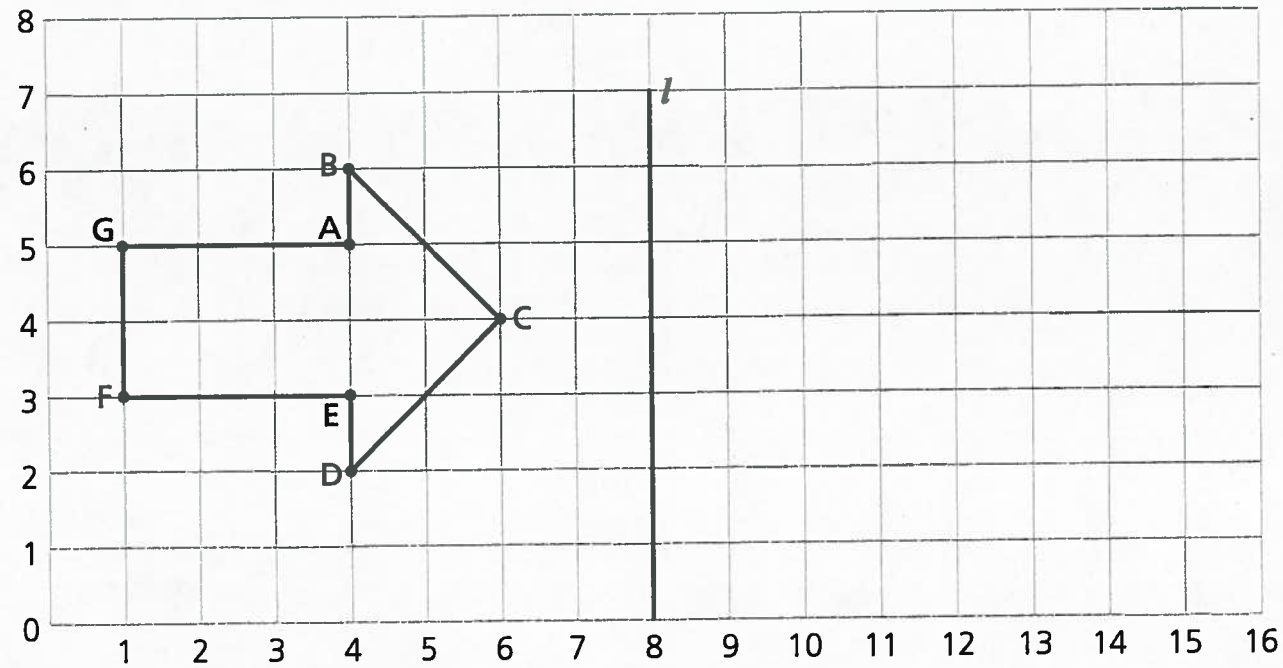
Ordered Pairs

horizontal distance from the origin (0,0)

vertical distance from the origin (0,0)

(,)

Locate and plot the points on the grid. Then answer the questions.



1. Coordinates

   A (____ , ____)

   B _____

   C _____

   D _____

   E _____

   F _____

   G _____

2. Reflect the arrow over the line l. Draw the image on the grid. Then label the vertices from P to V and write their coordinates.

   _____

   _____

3. Move the image of the arrow 1 unit up and 2 units left. Rotate a $\frac{1}{4}$ turn clockwise about (8,5). Name it Y. Then circle the vertices of Y located on the horizontal line if there are any.

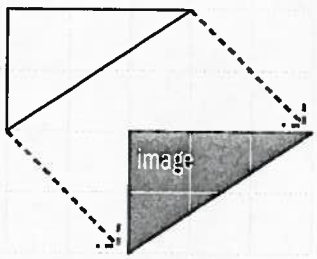
Name: Date:

Transformations

identifying different kinds of transformations – translation, reflection, and rotation

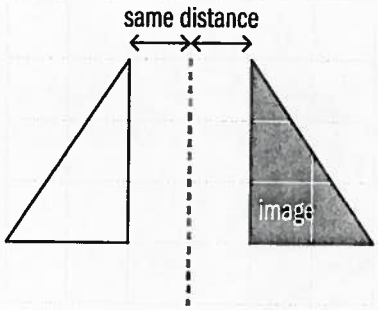
Trace the dotted lines. Fill in the missing letters to identify each transformation.

1. T__ an__ __ at__ on



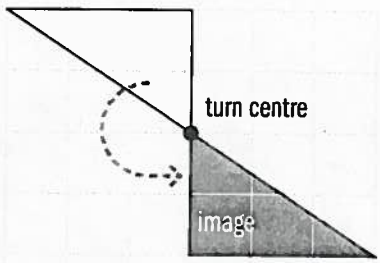
- Slide the figure along a straight line.

R__ f__ __ ct__ on



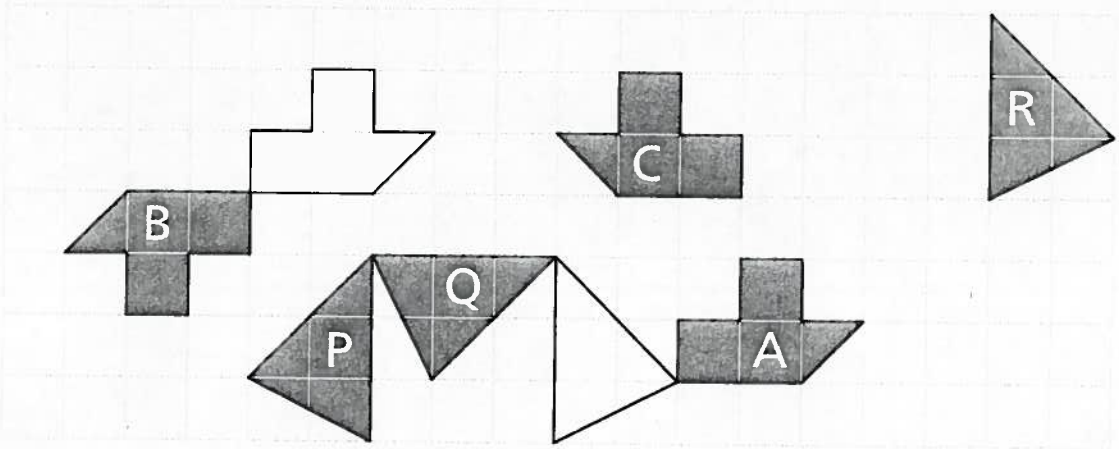
- Flip the figure over a line.

Ro__ a__ io__



- Turn the figure about the turn centre.

Identify each transformation.



2. Move the  to each image.

   a. image A: _____

   b. image B: _____

   c. image C: _____

3. Move the  to each image.

   a. image P: _____

   b. image Q: _____

   c. image R: _____

Name: Date:

Location of Objects

writing coordinates of objects on a coordinate system

Complete the grid. Find the coordinates or locate the objects on the grid.

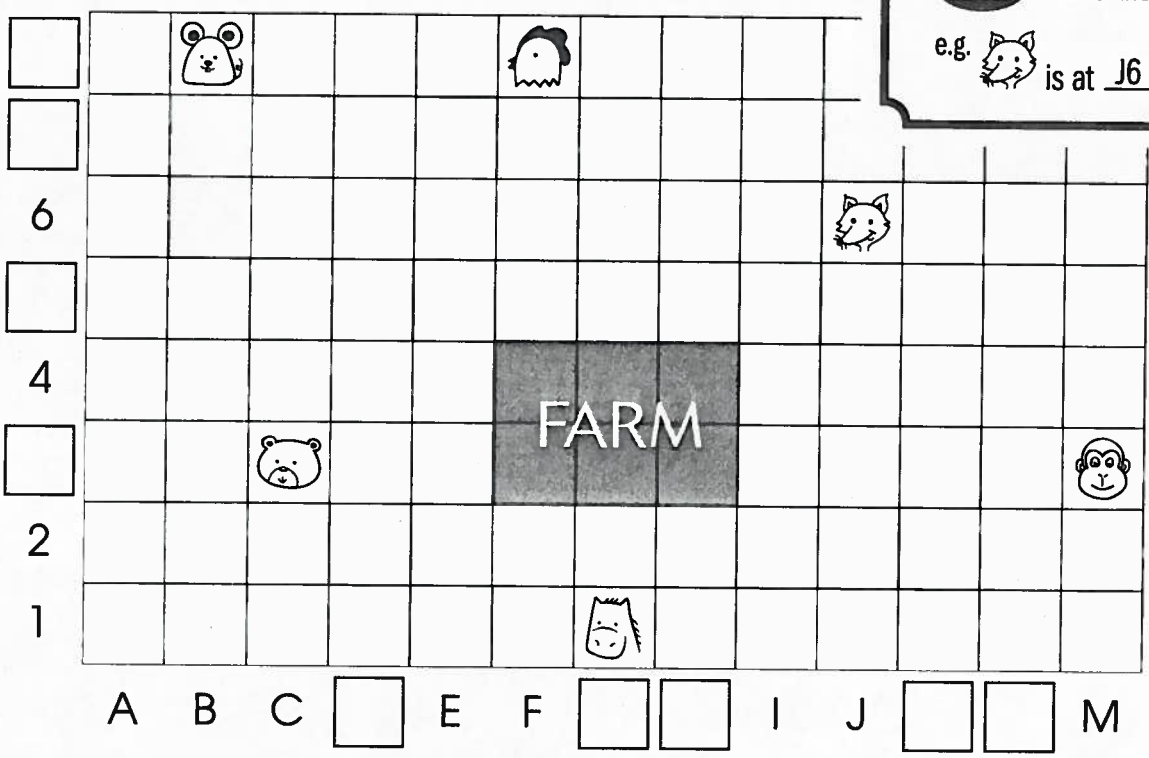
Writing Coordinates

1st Write the letter.

2nd Write the number.

e.g. is at J6 .

1.



2. Coordinates of the animals:

a.  _____

b.  _____

c.  _____

d.  _____

e.  _____

3. How many squares are taken up by the farm? What are the coordinates of the farm?

_____ squares ; _____

_____

4. Which animal is closest to the farm?

_____

Name: Date:

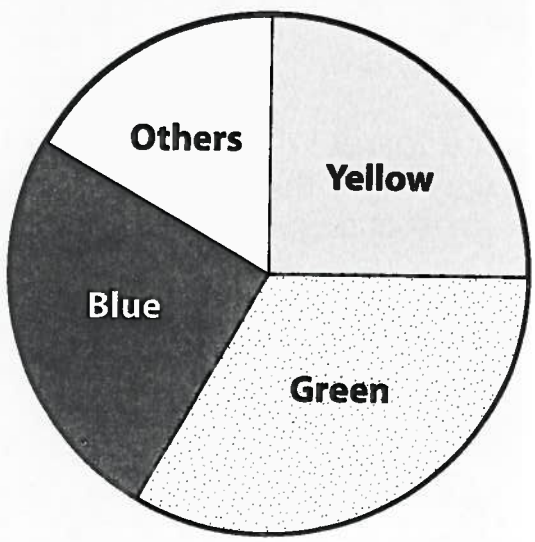
Circle Graph

reading circle graphs to solve problems

Measure the angles to complete the table. Then answer the questions.

1.

Colour	Angle of Measure	Fraction
Yellow		
Green		
Blue		
Others		



2. Which is the most popular colour? _____

3. What fraction of the children like yellow or blue? _____

4. Give an example of colour that can be included in the "Others" section. _____

5. If 60 children are surveyed, how many children like green? (Think: What number is one third of 60?) _____

6. If 100 children are surveyed, how many children like blue? _____

Name: Date:

Line Graphs

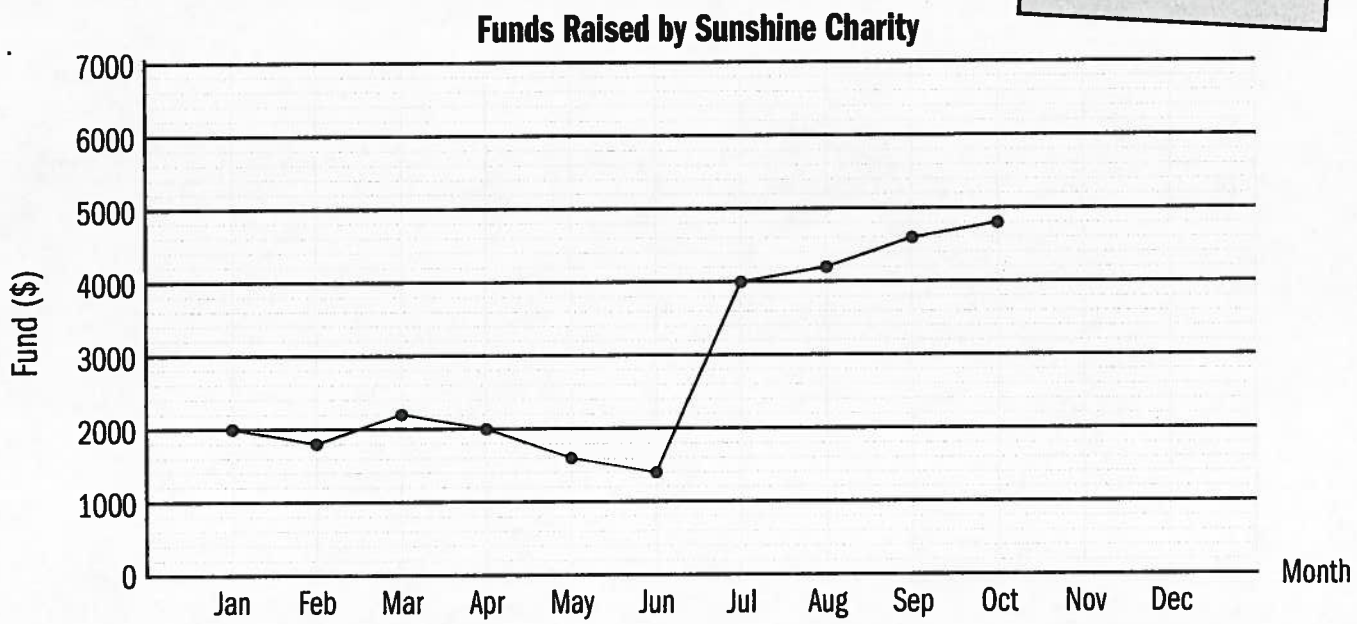
interpreting a line graph

Sunshine Charity

	Funds Raised
Nov	$5200
Dec	$5800

Complete the graph that shows the funds raised by Sunshine Charity. Then answer the questions.

1.



2.

Month	Funds Raised
Jan	$2000
Feb	
Mar	
Apr	
May	
Jun	
Jul	
Aug	
Sep	
Oct	
Nov	
Dec	

3. Find the range, mean, mode, and median of the funds raised.

range: _____ mean: _____

mode: _____ median: _____

4. Sunshine Charity adopted a new way to promote a campaign. When did they adopt the new way? Explain.

_____

_____

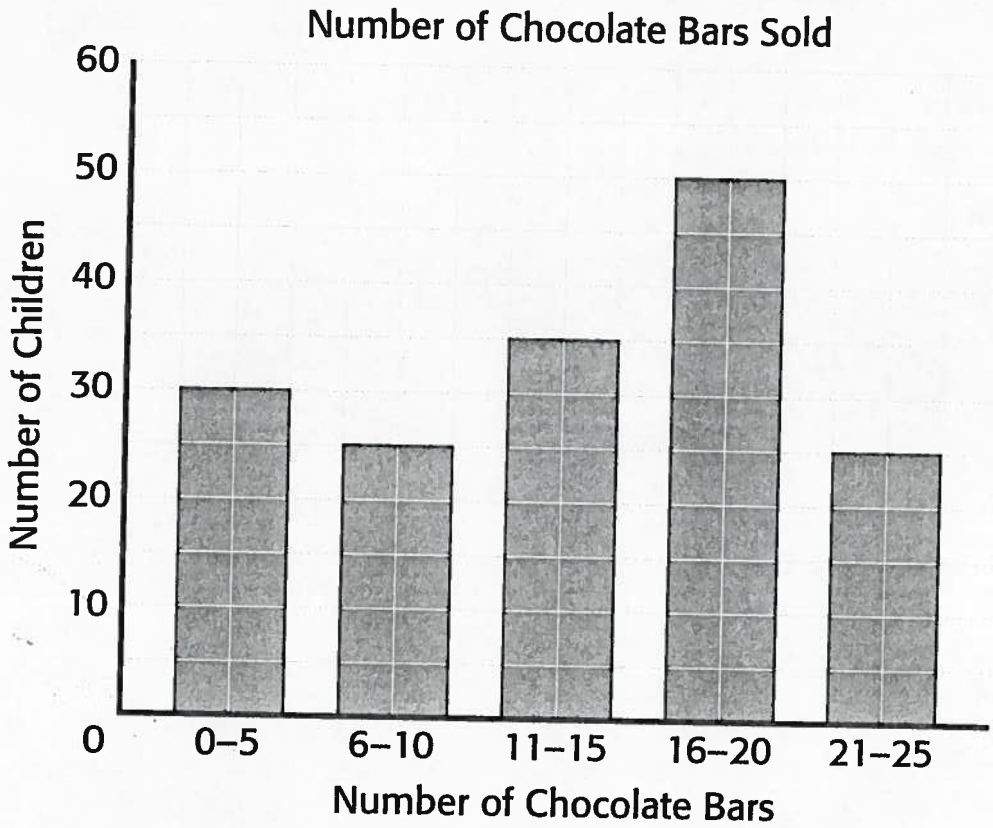
_____

Name: Date:

Interpret Survey Results

interpreting survey results presented in a bar graph

Look at the bar graph. Complete the table and answer the questions.



1.

No. of Chocolate Bars Sold	No. of Children
0 – 5	
6 – 10	
11 – 15	
16 – 20	
21 – 25	

2. What might the survey question have been?

_____

_____

3. How many children sold 16 or more chocolate bars?

_____

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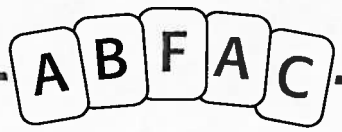
Probability

showing the probabilities of events using fractions

Find the probability of each event.

The Probability of an Event



The probability of an event $= \frac{\text{no. of times of a particular event}}{\text{total no. of possible outcomes}}$

e.g. 2 out of 5 cards are "A".

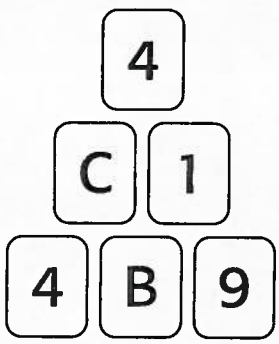
The probability of drawing "A" $= \frac{2}{5}$

1. Draw a card.

   a. Number of possible outcomes = _____

   b. The probability of drawing

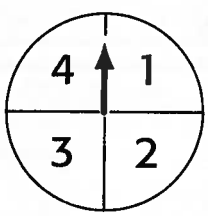
   - a number card = _____ out of 6 = $\frac{\square}{6}$
   - a letter card = _____ = _____

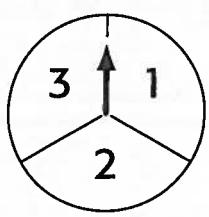


2. Spin each pointer once and multiply the numbers that the pointers land on.

   a. Complete the table to list all the possible outcomes.

x	1	2	3	4
1				
2				
3				





   b. The probability of getting a product of 4 = _____

   c. The probability of getting a product that is an even number = _____

Name: Date:

Probability

finding the likelihood of events

Describe each event with the given words. Then draw pictures to match the descriptions.

certain likely unlikely impossible

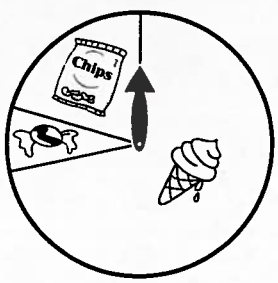
1. You will see a mouse flying in the sky tomorrow. _____

2. You will see stars tonight. _____

3. There will be a newcomer in your class next week. _____

4. Andy has a bag of marbles; most marbles are yellow. If Andy draws a marble from the bag, it will be yellow. _____

5. Spin the pointer once. The pointer will land on



a. the "ice cream": _____

b. the "candy": _____

c. the "cookie": _____

d. the "chips": _____

6. Draw 12 balls in the box and colour to match the descriptions.

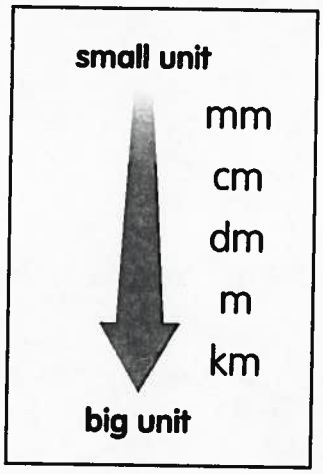
- It is likely to pick a green ball.
- It is impossible to pick a red ball.
- It is unlikely to pick a yellow ball.

Name: Date:

Length

finding appropriate units to do measurements and doing unit conversions

Use an appropriate unit to do each measurement.



1. the length of your thumb _____
2. the length of your desk _____
3. the thickness of a coin _____
4. the length of a highway _____
5. the height of a building _____

Write each measurement using the given units.

Converting Units

Relationships

1 km = 1000 m
1 m = 10 dm
1 dm = 10 cm
1 m = 100 cm
1 cm = 10 mm

Big Unit → Small Unit

e.g. x 1000
3.6 **km** = 3600 **m**

x 100
0.4 **m** = 40 **cm**

Small Unit → Big Unit

e.g. ÷ 100
84 **cm** = 0.84 **m**

÷ 10
210 **mm** = 21 **cm**

6. 8.3 m
_____ km
_____ cm

7. 42 dm
_____ m
_____ cm

8. 0.57 km
_____ m
_____ dm

9. 12.3 cm
_____ m
_____ mm

Name: Date:

Mean, Median, Mode, and Range

interpreting data using mean, median, mode, and range

Do the matching. Then find the mean, median, mode, and range of each set of data.

1.

mean •

median •

mode •

range •

- the number that occurs most often in the data
- the difference between the highest and lowest numbers in a set of data
- the middle value in a set of values arranged in order (If there is an even number of numbers, this middle value is the average of the two middle numbers.)
- the average of a set of numbers

2. **Weights of 12 children:**

Put the data in order from least to greatest.

35 kg 18 kg 26 kg 32 kg

14 kg 30 kg 18 kg 32 kg

34 kg 32 kg 24 kg 29 kg

_____ mean _____ median _____ mode _____ range

3. **Andy's Weekly Earnings:**

Put the data in order from least to greatest.

$5 $4.75 $4 $6 $3 $2

$0 $1.25 $1 $2 $1 $0

_____ mean _____ median _____ mode _____ range

4. How many children were surveyed?

_____

5. If the mean number of chocolate bars sold by each child is 14, how much would be raised in this activity?

_____

6. Check the statements that describe the graph correctly. Then write a statement with what you have found out from the graph.

- [ ] A — Twice as many children sold 16–20 chocolate bars as those who sold 21–25 chocolate bars.
- [ ] B — There are 25 children who sold 25 chocolate bars.
- [ ] C — Half of the children surveyed are girls.
- [ ] D — The number of children who sold who 6–10 chocolate bars is the same as that of those who sold 21–25 chocolate bars.
- [x] ✔ _____

_____

7. All the children surveyed are from Grade 1 to Grade 6, but most of them are from Grade 6 and are boys. Do you think this sample group is biased? If it is, give a suggestion to make an appropriate sample group.

_____

_____

_____

Name: Date:

Word Problems

solving multi-step problems with different operations

Solve the problems. Show your work and write concluding sentences.

1. Bob has $20. If he spends 2 toonies, 3 loonies, 4 quarters, 6 nickels, and 7 pennies on his lunch, how much will he have left?

Money spent	Amount
2 toonies	$4
3 loonies	

Total: _____ in all

Money left:

He will have _____ .

2. Jenny divides Monarch Trail into 3 sections. The first section is 572 m long and the length of the second section is half of the first section. How long is the last section?