

Grade 3

Assessment of Reading, Writing and Mathematics, Primary Division

Student Booklet

Mathematics

SPRING 2012

RELEASED ASSESSMENT QUESTIONS

Education Quality and
Accountability Office



Please note: The format of this booklet is different from that used for the assessment. The questions themselves remain the same.

Mathematics

Section 1

You may not use a calculator or manipulatives for questions 1–6.

- 1** Look at the pattern below.

92, 90, 88, ____, 84, 82, ____

Which numbers are missing from this pattern?

- ☐ 87, 81
- ☐ 87, 80
- ☐ 86, 81
- ☐ 86, 80

- 2** Steve has 48 stickers and Sam has 34 stickers.

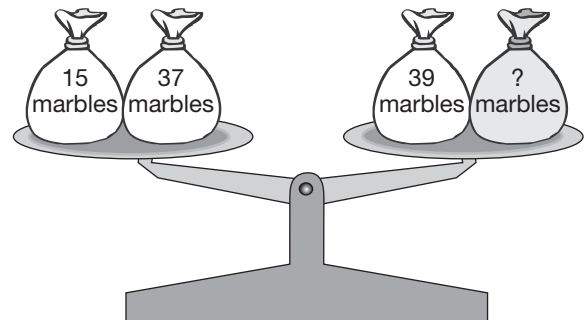
Which is closest to the number of stickers they have altogether?

- ☐ 90
- ☐ 80
- ☐ 70
- ☐ 50

- 3** Which of the following does **not** have the same value as 3×4 ?

- ☐ 2×6
- ☐ 3×2
- ☐ 4×3
- ☐ 6×2

- 4** The marbles in the bags on the scale below are all the same size and mass. The scale is balanced.



How many marbles are in the shaded bag?

- ☐ 13
- ☐ 17
- ☐ 52
- ☐ 91

- 5** What number makes the addition question below true?

$$\begin{array}{r} \square\square \\ + 47 \\ \hline 72 \end{array}$$

- ☐ 35
- ☐ 25
- ☐ 24
- ☐ 19

6 Look at the growing pattern below.

3, __, __, __, 19

The pattern goes up by the same number each time.

What are the missing numbers?

- ☐ 4, 5, 6
- ☐ 6, 9, 12
- ☐ 7, 11, 15
- ☐ 8, 13, 18

**You may now use
a calculator and/or manipulatives.**

7 Abdul has the 7 coins shown below.




Cindy has fewer than 7 coins.
Sanjeet has more than 7 coins.
Cindy and Sanjeet have the same amount of money as Abdul.
Use the chart below to show the coins that Cindy and Sanjeet could have.

Cindy's coins (fewer than 7)	Sanjeet's coins (more than 7)

- 8** Jane has a book with 11 chapters.

She reads chapter 1 on the first day of April. Three days later, she reads chapter 2.

April						
S	M	T	W	T	F	S
	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				

Will Jane finish the book by April 30th if she continues to read one chapter every three days?

Circle one: Yes No

Explain your answer.

9 The tally chart below shows data from a survey of Grade 3 students about their favourite number from one to six.

Favourite Number	1	2	3	4	5	6
Number of Students	<div> </div>	<div> </div>	<div> </div>		<div> </div>	

There are 40 students who answer the survey. The tallies for 4 and 6 have not been filled in.

Fill in the tallies for 4 and 6 so that the only mode of the data is 4.

Explain your answer.

10 In the chart below, draw a pattern block that matches the title of the column.

Has an angle bigger than a right angle	Has an angle smaller than a right angle	Has an angle equal to a right angle
<p>Mark the angle with an X.</p>	<p>Mark the angle with an X.</p>	<p>Mark the angle with an X.</p>

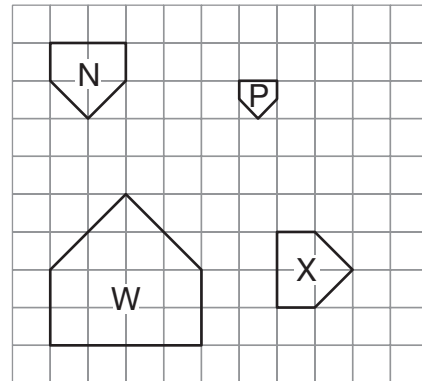
11 Which set of numbers is listed in order from smallest to largest?

- ☐ 479, 794, 749
- ☐ 974, 794, 749
- ☐ 479, 749, 794
- ☐ 974, 749, 794

12 Which is the best estimate of the height from the floor to the doorknob on a classroom door?

- ☐ 1 cm
- ☐ 9 cm
- ☐ 10 cm
- ☐ 90 cm

13 Four shapes are shown on the grid below.



Which two shapes appear to be congruent?

- ☐ N and P
- ☐ P and W
- ☐ W and X
- ☐ X and N

14 Look at the number sentence below.

$$30 - 21 = 9$$

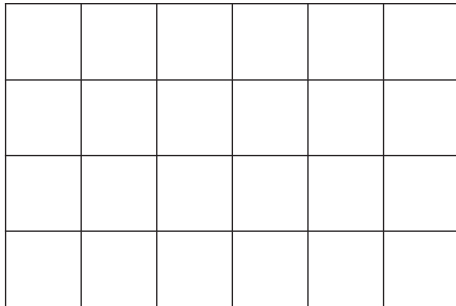
Which of the following number sentences belongs to the same fact family?

- ☐ $12 - 9 = 3$
- ☐ $21 - 12 = 9$
- ☐ $21 + 9 = 30$
- ☐ $12 + 21 = 33$

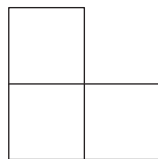
15 Which list shows the lengths from shortest to longest?

- ☐ 2 m; 50 m; 300 cm
- ☐ 50 m; 300 cm; 2 m
- ☐ 300 cm; 50 m; 2 m
- ☐ 2 m; 300 cm; 50 m

16 Look at the grid and the shape below.



Grid



Shape

How many of the shapes are needed to cover the grid, with no gaps or overlaps?

- ☐ 6
- ☐ 8
- ☐ 12
- ☐ 24

17 Lily creates a number pattern. She starts at 95 and subtracts 5 each time.

Which of the following shows the first 4 numbers of Lily's pattern?

- ☐ 95, 85, 75, 65
- ☐ 95, 90, 85, 80
- ☐ 95, 100, 105, 110
- ☐ 95, 105, 115, 125

18 Joel helps his mom for 1 hour.

For how many minutes does Joel help his mom?

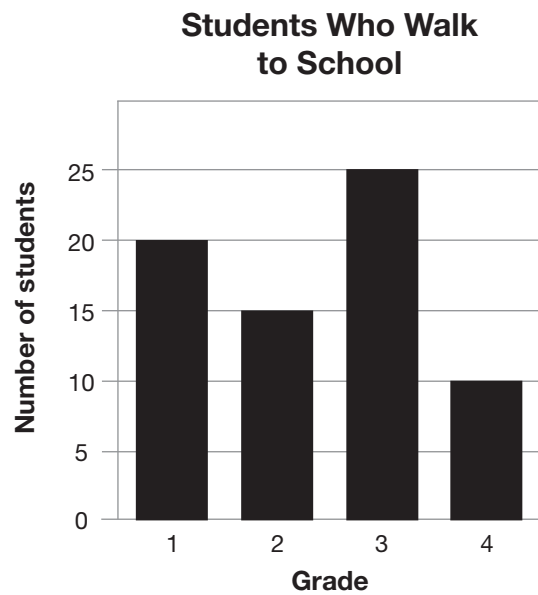
- ☐ 24
- ☐ 30
- ☐ 60
- ☐ 100



Mathematics

Section 2

1 Look at the graph below.



Which table matches the data shown in the graph?

☐

Grade	Number of students
1	20
2	10
3	25
4	15

☐

Grade	Number of students
1	20
2	25
3	15
4	10

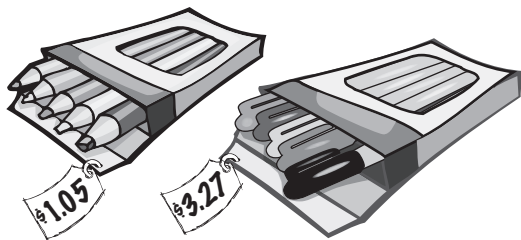
☐

Grade	Number of students
1	20
2	15
3	10
4	25

☐

Grade	Number of students
1	20
2	15
3	25
4	10

- 2** Omar buys a box of pencil crayons for \$1.05 and a box of markers for \$3.27.



Which set of coins shows exactly how much Omar needs to buy both items?

- ☐
- ☐
- ☐
- ☐

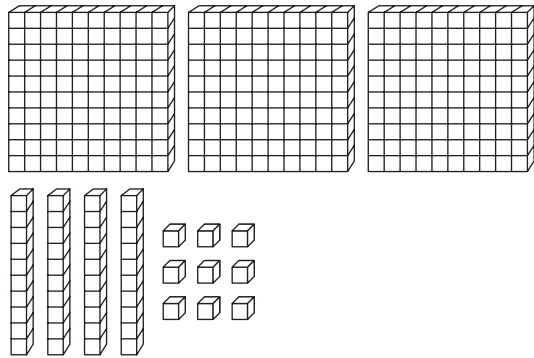
- 3** Look at the time shown in the box below.

11:40

Which of the following clocks shows the same time as the time in the box?

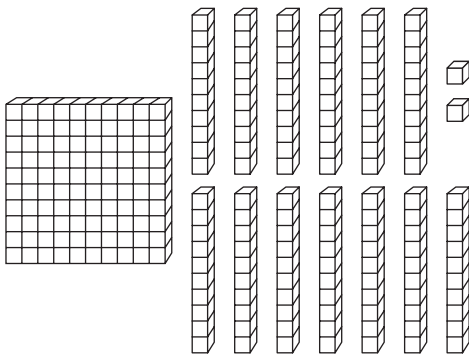
- ☐
- ☐
- ☐
- ☐

- 4** Look at the set of base-ten blocks pictured below.

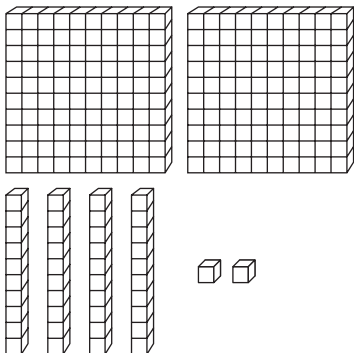


Which of the following sets of base-ten blocks combines with this set to represent 581?

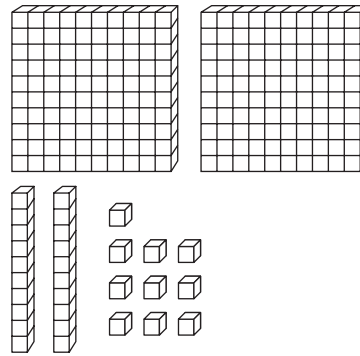
☐



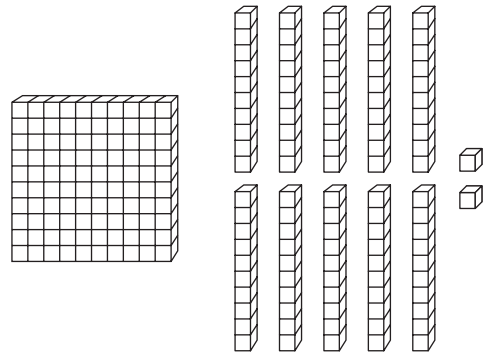
☐



☐



☐



- 5** A growing number pattern is shown below.

106, 109, 112, 115

What is the pattern rule?

☐

add 2

☐

add 3

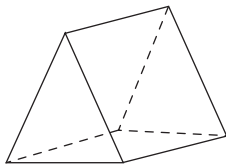
☐

add 4

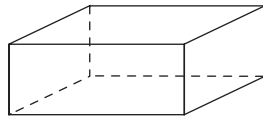
☐

add 5

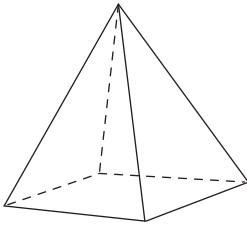
6 Look at the figures below.



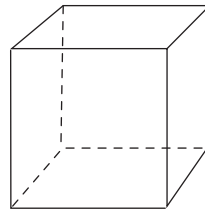
Triangular prism



Rectangular prism



Square-based pyramid



Cube

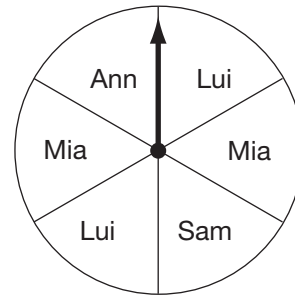
Which figures have exactly 5 faces?

- ☐ triangular prism and cube
- ☐ rectangular prism and cube
- ☐ triangular prism and square-based pyramid
- ☐ rectangular prism and square-based pyramid

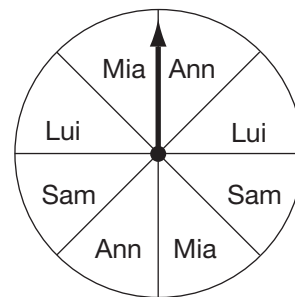
7 Ann, Sam, Mia and Lui are playing a game using a spinner. Each gets a point when the arrow lands on his or her name.

Which spinner is fair to all the players?

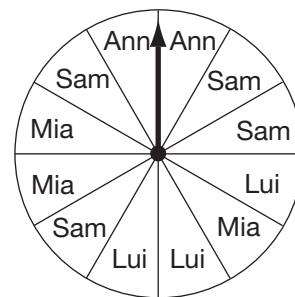
☐



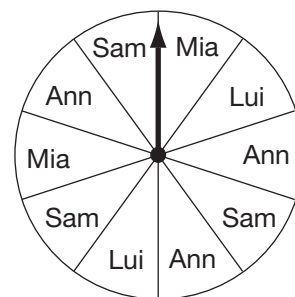
☐



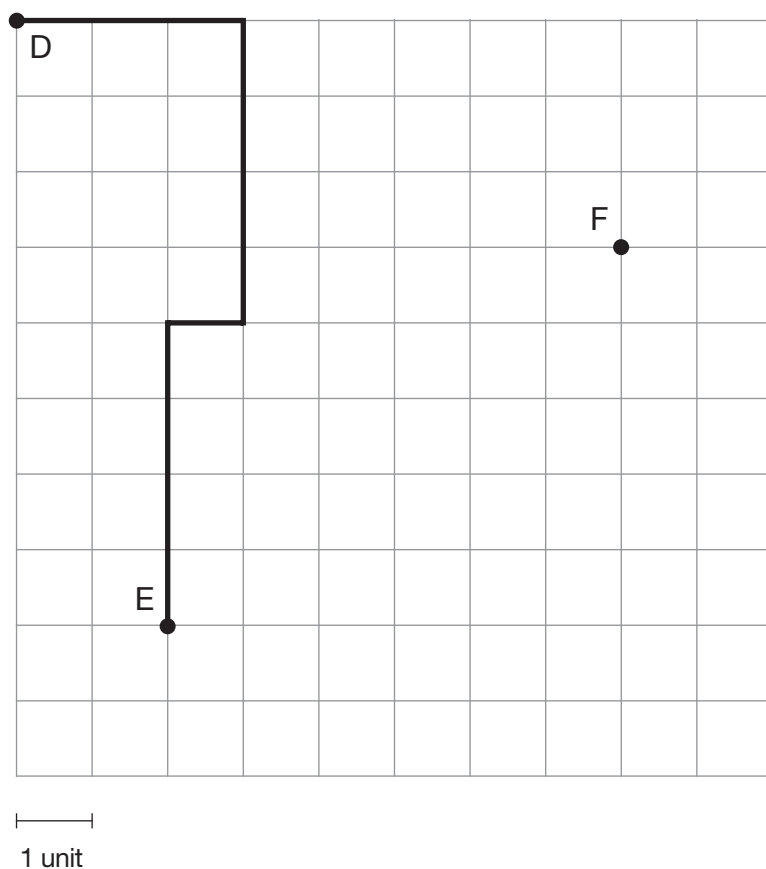
☐



☐



- 8** A path from D to E is drawn on the grid below.












Describe this path.

Draw the shortest path along the grid lines from E to F.


Describe this path.

9 The pictograph below shows the number of students who participated in some Earth Day activities.

Students’ Activities for Earth Day

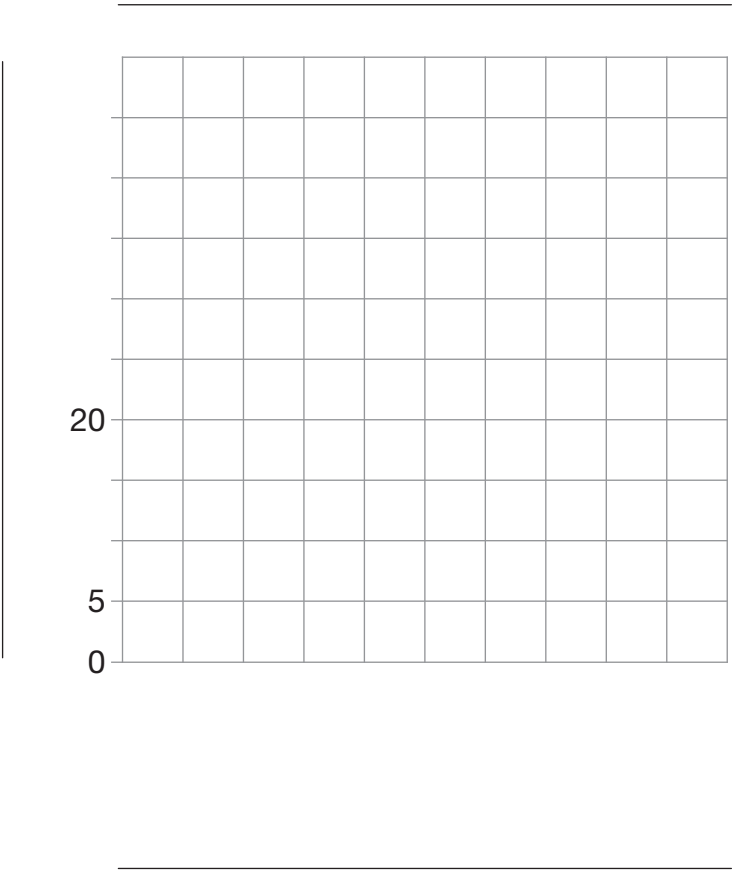
Activity	Number of students
Plant a tree	 
Pull weeds	  
Make posters	   

Key

Each  represents 10 students.

Use the data from the pictograph to make a bar graph. Be sure to include labels and titles.

Complete the scale provided.

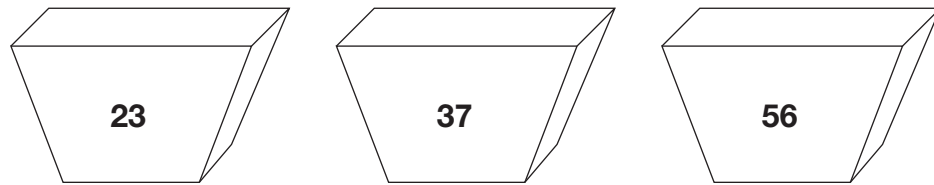


- 10** Deepak reads for 30 minutes each night before bed.
After 2 weeks, has Deepak read for more than 6 hours?

Circle one: Yes No

Justify your answer.

- 11** There are 3 bins of books in a classroom. The number of books in each bin is shown in the picture below.



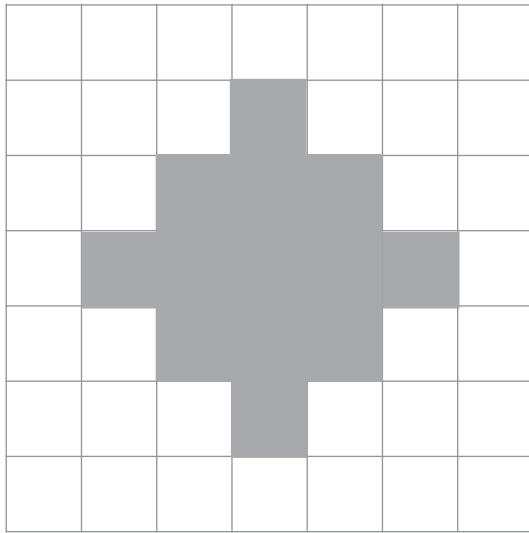
Kyle takes all the books out of the bins and puts them into piles of 10.

How many piles of 10 can Kyle make with all the books?

Justify your answer.

Kyle can make _____ piles of 10 books.

- 12** Katherine draws the grey shape on the grid below.

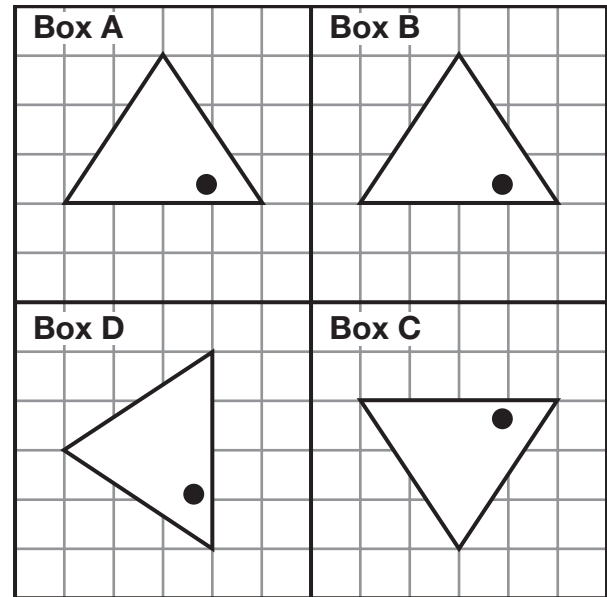


1 square unit

What is the area of the grey shape?

- ☐ 10 square units
- ☐ 13 square units
- ☐ 20 square units
- ☐ 36 square units

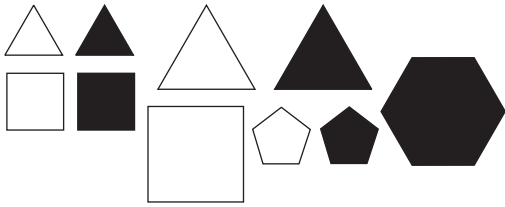
- 13** Transformations move the shape in Box A to Box B, to Box C and then to Box D.



What are the transformations in order?

- ☐ translation, reflection, rotation
- ☐ translation, rotation, reflection
- ☐ rotation, reflection, translation
- ☐ rotation, translation, reflection

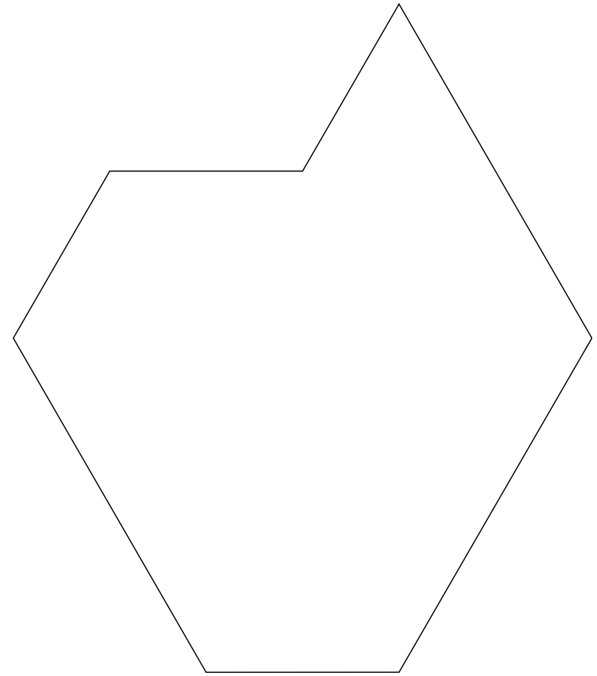
- 14** Look at the shapes below.



Which of the following statements is true?

- ☐ All of the small shapes are white.
- ☐ All of the black shapes have 3 sides.
- ☐ The shapes with 5 sides are small.
- ☐ The shapes with 4 sides are white.

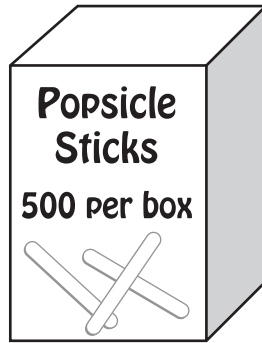
- 15** Marissa uses 5 pattern blocks to cover the shape below, with no gaps or overlaps.



Which 5 pattern blocks could she use?

- ☐ 2 hexagons and 3 triangles
- ☐ 4 trapezoids and 1 triangle
- ☐ 1 hexagon, 1 trapezoid and 3 triangles
- ☐ 1 hexagon, 2 trapezoids and 2 triangles

- 16** Popsicle sticks are packaged in boxes of 500.

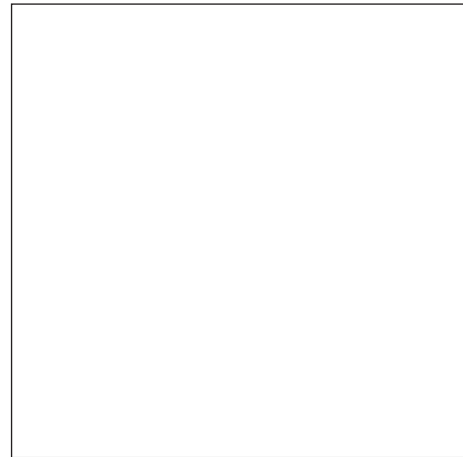


Meagan needs 100 popsicle sticks to build 1 tower. She has 2 boxes of popsicle sticks.

How many towers can she build using all of the popsicle sticks?

- ☐ 5
- ☐ 10
- ☐ 100
- ☐ 200

- 17** Look at the square below.



What is the perimeter of this square?

- ☐ 6 cm
- ☐ 12 cm
- ☐ 24 cm
- ☐ 36 cm

- 18** Which is the most appropriate unit to measure the length of a school bus?

- ☐ metre
- ☐ kilogram
- ☐ kilometre
- ☐ centimetre



**Education Quality and
Accountability Office**



2 Carlton Street, Suite 1200, Toronto ON M5B 2M9
Telephone: 1-888-327-7377 Web site: www.eqao.com

© 2012 Queen's Printer for Ontario