Released Assessment Questions, 2016

Junior Division

Grade **6** **Mathematics**

Assessment of Reading, Writing and Mathematics

INSTRUCTIONS

Answering Multiple-Choice Questions

Like this: ● **Not like this:** ⊗ ✓ ◒ ◉

- Use a pencil only.
- Fill only one circle for each question.
- Fill the circle completely.
- Cleanly erase any answer you wish to change.

Answering Open-Response Questions

- Write on the space provided in this booklet.

You are now ready to start.

Education Quality and Accountability Office
EQAO

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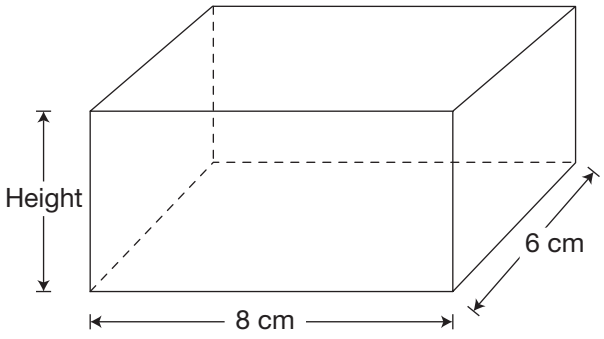
1 Which of these expressions has a value of 0.555?

- ○ $55.5 \div 100$
- ○ $55.5 \div 1000$
- ○ 5.55×100
- ○ 5.55×1000

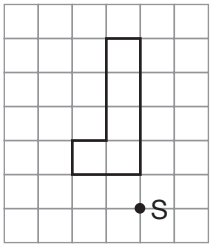
2 This rectangular prism has a volume of 192 cm^3.



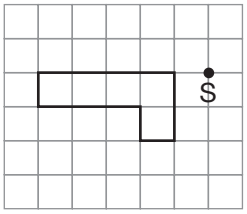
What is its height?

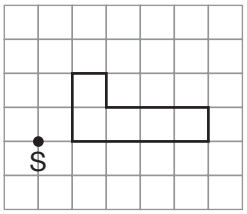
- ○ 4 cm
- ○ 8 cm
- ○ 24 cm
- ○ 48 cm

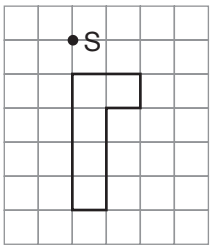
3 A shape is shown on the grid.

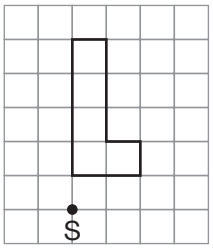


Which grid shows the image of the shape after a 180° rotation then a 90° rotation counter-clockwise about Point S?

○ 

○ 

○ 

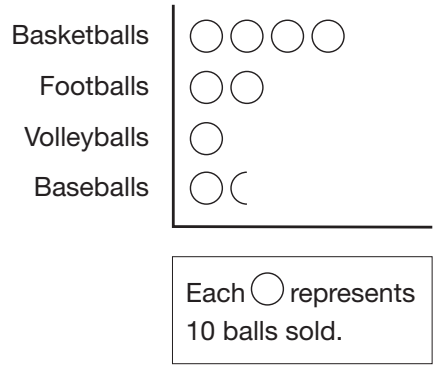
○ 

4 Which fraction is equivalent to 8%?

- ○ $\frac{2}{25}$
- ○ $\frac{2}{20}$
- ○ $\frac{1}{8}$
- ○ $\frac{8}{10}$

5 Which statement about the pictograph is true?

Balls Sold at a Sports Store



- ○ Twice as many basketballs as baseballs were sold.
- ○ Twice as many baseballs as volleyballs were sold.
- ○ An equal number of footballs and baseballs were sold.
- ○ The total number of baseballs and basketballs sold was 55.

6 Isla can run 800 metres in 10 minutes.

At this rate, how many **kilometres** can she run in 50 minutes?

- ○ 4
- ○ 16
- ○ 4000
- ○ 8000

7 The first term of a pattern is 28 672. The pattern rule is "divide by 4 to get the next term."

What is the 5th term?

- ○ 28
- ○ 112
- ○ 448
- ○ 7168

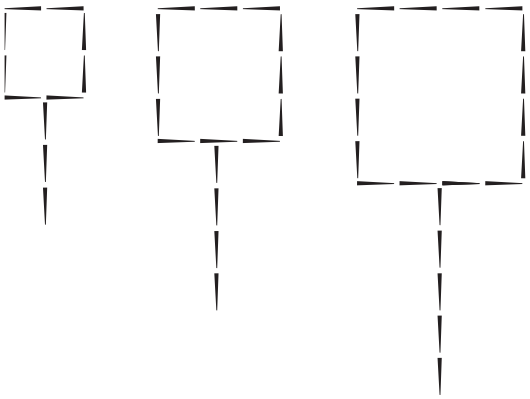
8 This number line is divided into 4 equal parts using points.

The value of Point A is _____.

Complete the chart to compare the numbers below to Point A's value.

Number	Greater or less than Point A's value	Justify your answer with fractions, decimals or percents
0.3	Circle one: greater than less than	
0.88	Circle one: greater than less than	
0.09	Circle one: greater than less than	

9 The terms of a pattern are made using toothpicks. Term 1 and Term 5 are not shown.



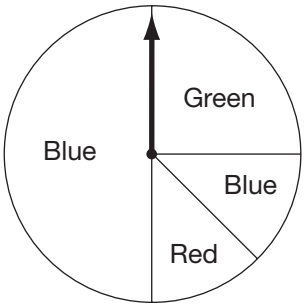
Term 2 Term 3 Term 4

Determine the **total** number of toothpicks used in Term 1 to Term 5 of this pattern.

Justify your answer.

The total number of toothpicks used in Term 1 to Term 5 of this pattern is _____.

10 Nicky spins the arrow on this spinner 56 times.



Complete the chart.

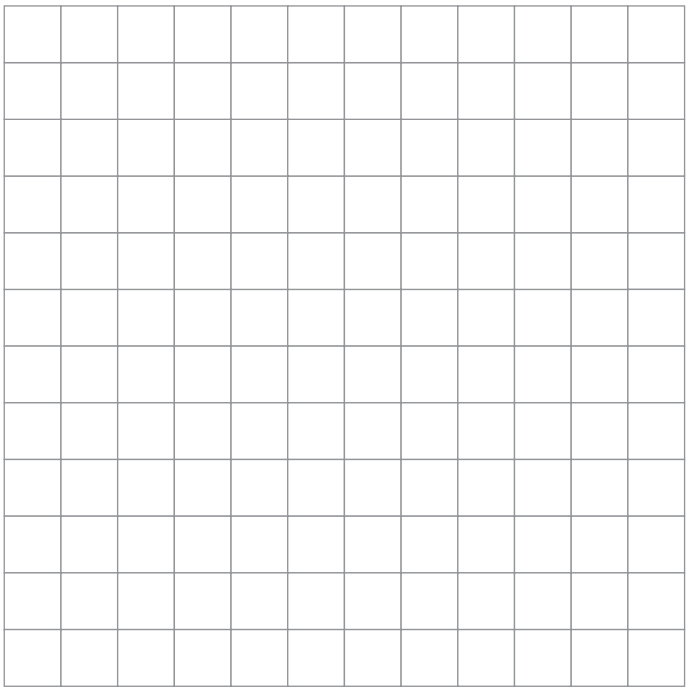
Colour	Theoretical probability of the arrow landing on this colour as a percent	Number of spins
Green		
Blue		
Red		
Total		56

Show your work.

11 Complete the chart.

Name	Number of acute angles	Number of obtuse angles	Number of lines of symmetry
Square			
Rectangle			
Right trapezoid			
Isosceles trapezoid			

On the grid, draw and name a quadrilateral that has 2 obtuse angles and no lines of symmetry.

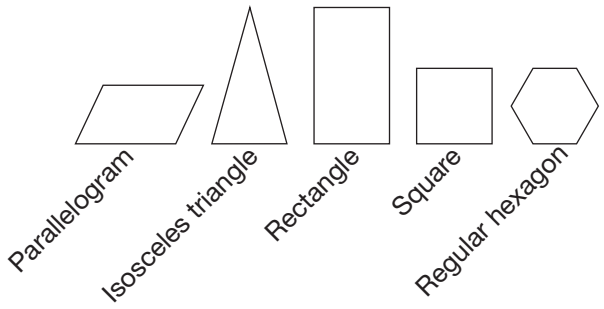


Name of quadrilateral: _____

12 Which of these patterns uses the rule "multiply by 2 and add 1" to get the next term?

- ○ 1, 2, 4, 5, 10, ...
- ○ 1, 2, 4, 8, 16, ...
- ○ 1, 3, 7, 15, 31, ...
- ○ 1, 4, 10, 22, 46, ...

13 These polygons have been ordered from **smallest** to **largest** based on a geometric property.



Which property has been used to order the polygons?

- ○ number of sides
- ○ number of acute angles
- ○ number of lines of symmetry
- ○ number of pairs of parallel sides

14 Consider these two equations.

$$\square - 3 = 7$$

$$4 \times \triangle = 8$$

What is the value of $\square + \triangle$?

- ○ 2
- ○ 6
- ○ 12
- ○ 14

15 How many minutes are in 365 days?

- ○ 8760 minutes
- ○ 21 900 minutes
- ○ 262 800 minutes
- ○ 525 600 minutes

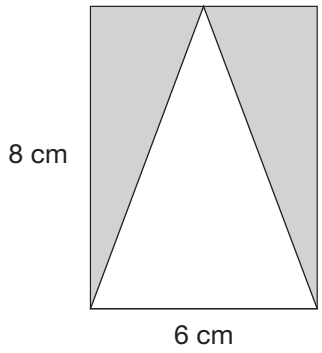
16 Hayden randomly selects one date from this calendar.

October						
S	**M**	**Tu**	**W**	**Th**	**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	31				

What is the probability that it will be an odd-numbered date?

- ○ $\frac{1}{31}$
- ○ $\frac{7}{31}$
- ○ $\frac{15}{31}$
- ○ $\frac{16}{31}$

17 What is the total area of the **shaded** region in this diagram?



- ○ 14 cm^2
- ○ 22 cm^2
- ○ 24 cm^2
- ○ 48 cm^2

18 How many millilitres are in 82 L?

- ○ 0.082 mL
- ○ 0.82 mL
- ○ 8200 mL
- ○ 82 000 mL

STOP

Section 2

After each assessment, EQAO makes approximately half of the test items (questions) public. This allows EQAO to build a bank of assessment material that can be used in the future. Items that are not published in this booklet (Section 2) are replaced by their description. Test booklets and examples of student answers from the past five years are available at www.eqao.com.

Items that are not being published have been described below, with a reference to the skill they assessed.

1 compare fractional amounts (Knowledge and Understanding)

2 use estimation to solve a problem (Application)

3 determine a unit rate (Thinking)

4 solve a problem involving multiplying whole numbers (Thinking)

5 determine an expression to represent the area of a polygon (Knowledge and Understanding)

6 determine the area of polygons (Application)

7 solve a problem involving conversions of m^2 to cm^2 (Thinking)

8 determine the volumes of prisms (Application)

9 measure an angle (Knowledge and Understanding)

10 identify a point in the first quadrant of a graph (Application)

11 describe transformations on a grid (Application)

12 determine the terms in a pattern (Thinking)

13 determine a term in a pattern (Application)

14 extend a repeating pattern (Application)

15 select a sample that is representative of a population (Knowledge and Understanding)

16 interpret data presented in graphs (Application)

17 predict the frequency of an outcome of a probability experiment (Thinking)

18 demonstrate an understanding of mean (Thinking)