

Grade 6

Assessment of Reading, Writing and Mathematics, Junior Division

Student Booklet

Mathematics

Spring 2014

RELEASED ASSESSMENT QUESTIONS

**Record your answers on the Multiple-Choice
Answer Sheet.**

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Education Quality and
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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.

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Mathematics

Section 1

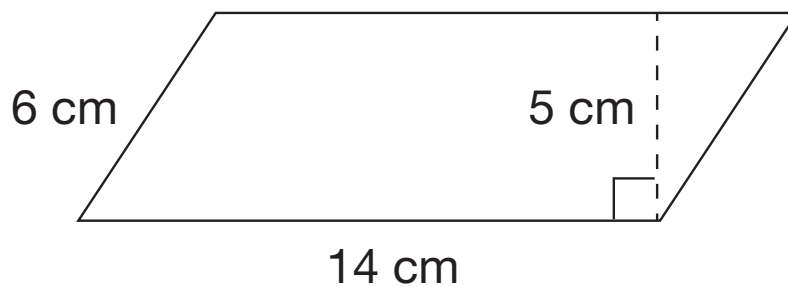
- 1** A pattern is shown below.

1, 2, 4, 8, ...

Which rule best describes the pattern?

Start with 1 and

- a add 1 to get the next term.
 - b add 2 to get the next term.
 - c divide by 2 to get the next term.
 - d multiply by 2 to get the next term.
- 2** The parallelogram below will be cut into two congruent triangles.



What is the area of one of the triangles?

- a 35 cm^2
- b 42 cm^2
- c 70 cm^2
- d 84 cm^2

- 3** A store sells 12 oranges for \$3.96.

How much does one orange cost?

- a** \$3.84
- b** \$3.03
- c** \$0.39
- d** \$0.33

- 4** A list of numbers is shown below.

11, 5, 11, 9, 4

What is the mean of these numbers?

- a** 7
- b** 8
- c** 9
- d** 11

5 Which two equations are true if $n = 2$?

Equation 1: $4 + n + 3 = 5$

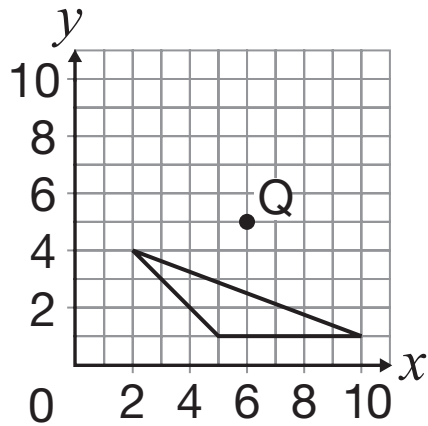
Equation 2: $4 - n + 3 = 5$

Equation 3: $4 \times n + 3 = 5$

Equation 4: $4 \div n + 3 = 5$

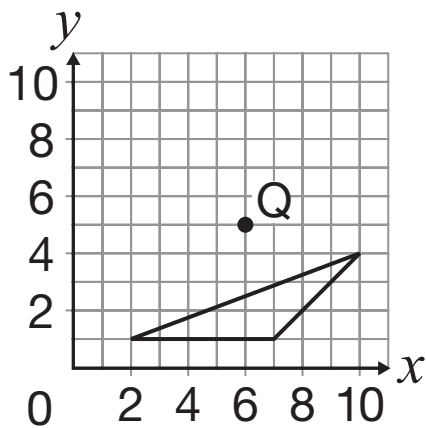
- a** Equation 2 and Equation 4
- b** Equation 2 and Equation 3
- c** Equation 1 and Equation 4
- d** Equation 1 and Equation 2

- 6** Dylan rotates the triangle below 90° counter-clockwise about Point Q.

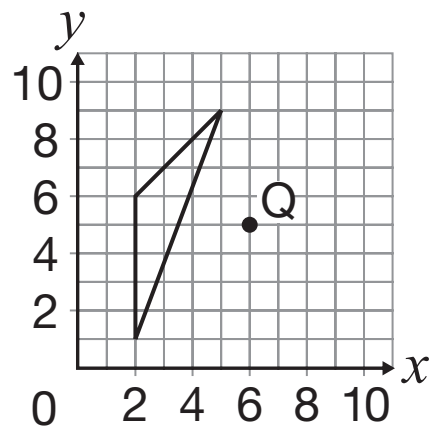


Which of the following triangles shows the result of this transformation?

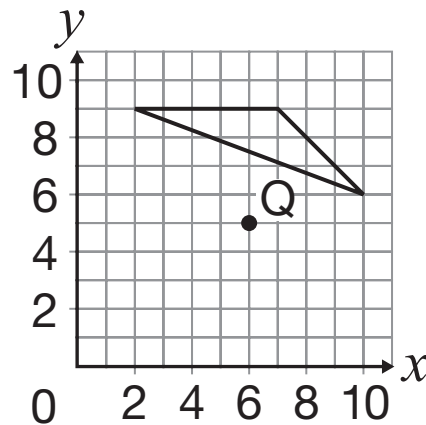
a



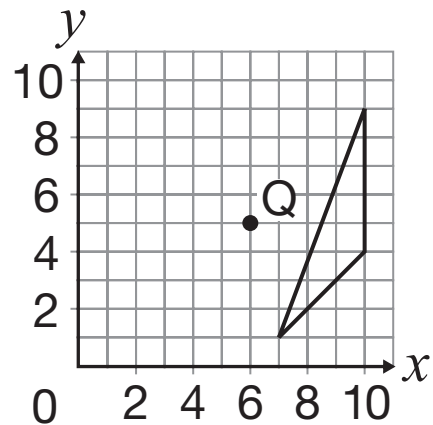
b



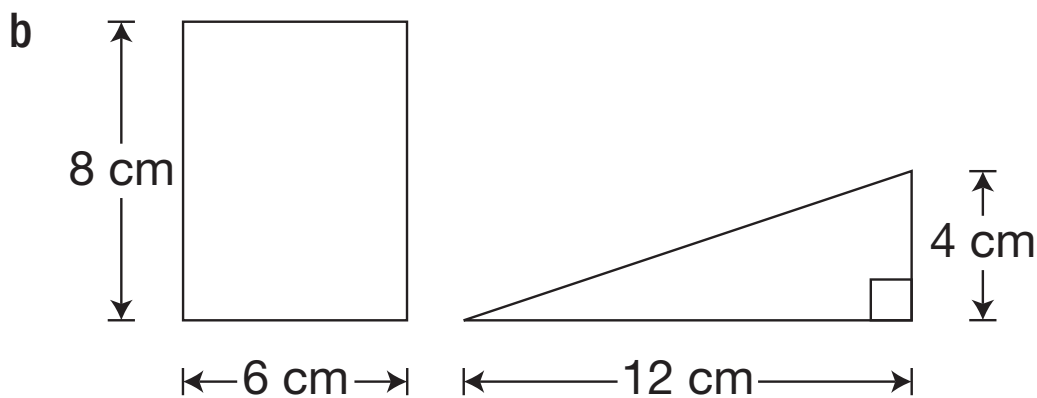
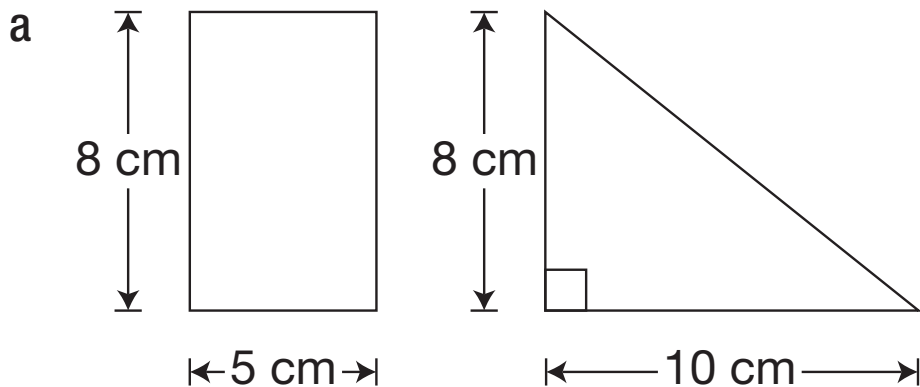
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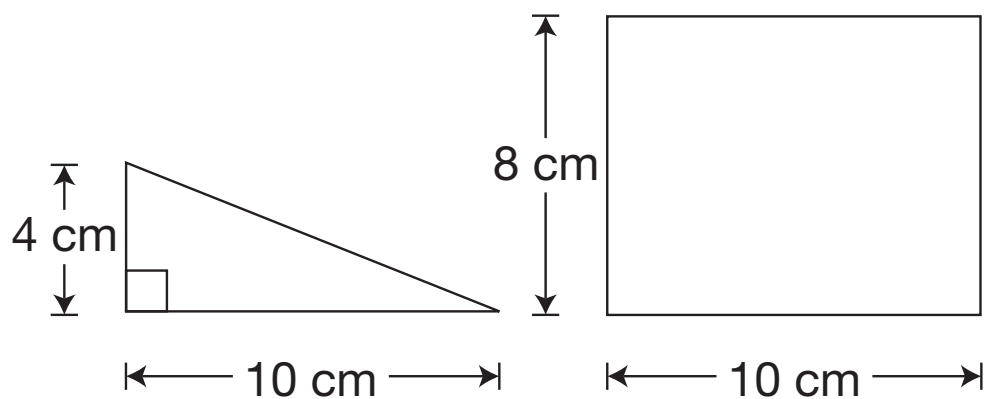
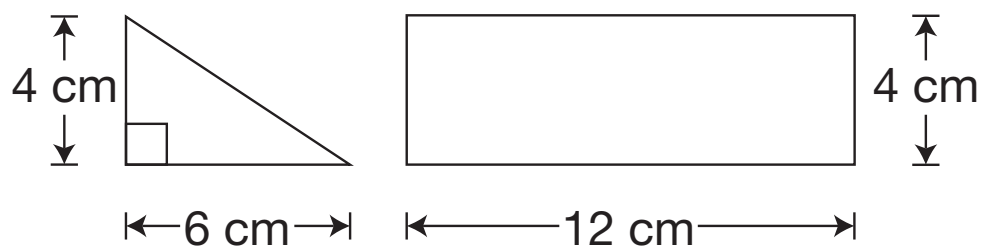


d

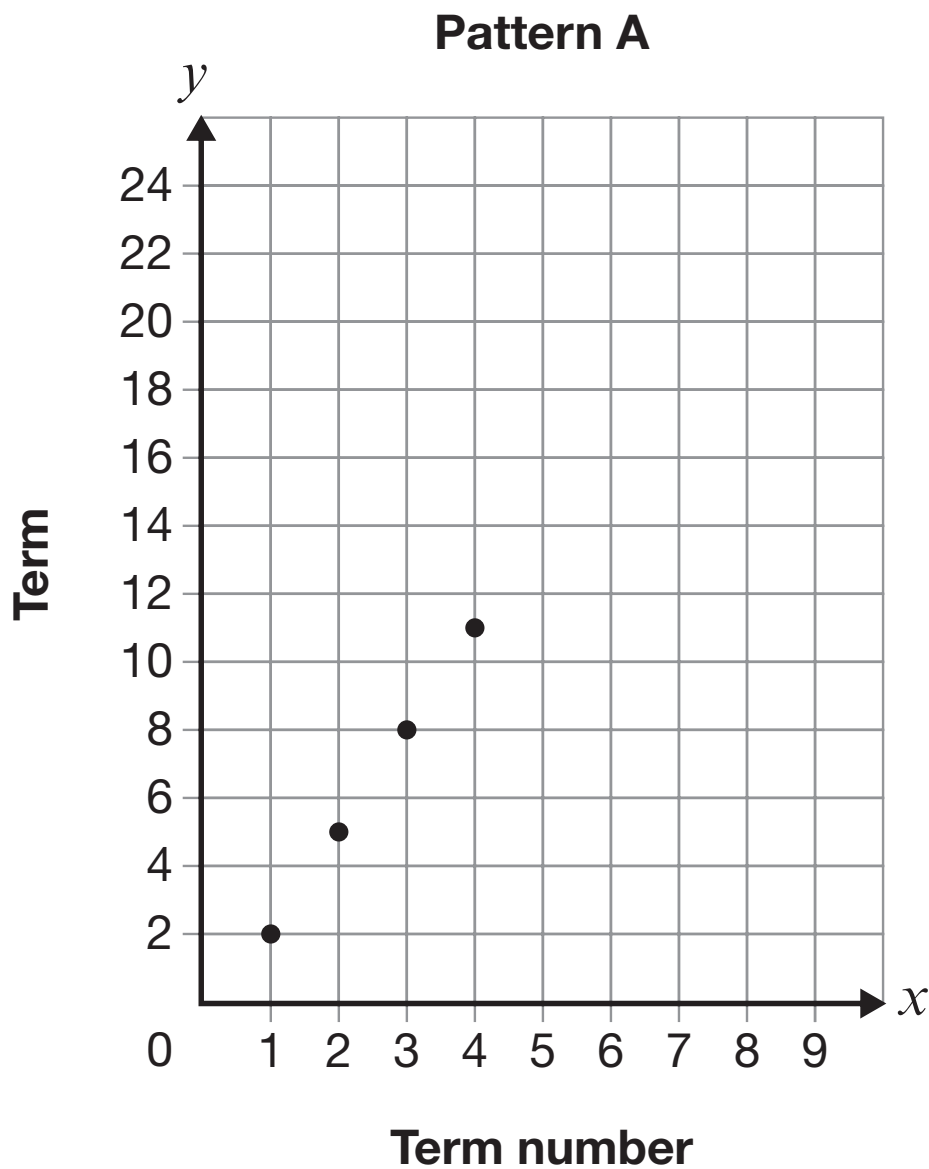


- 7** Which of the following shows a rectangle and a triangle that have the same area?



c**d**

- 8** Two patterns are shown below.



Pattern B

Start with 7 and add 2 to get the next term.

If both patterns continue in the same way, which pattern will reach a term with a value of 23 first?

Justify your answer.

Pattern _____ will reach a term with a value of 23 first.

- 9** A Canadian television station shows 16 minutes of commercials every hour between 8:00 a.m. and 11:00 p.m. every day.

How many minutes of commercials are there on the station between 8:00 a.m. and 11:00 p.m. in 365 days?

Show your work.

There are _____ minutes of commercials on the station between 8:00 a.m. and 11:00 p.m. in 365 days.

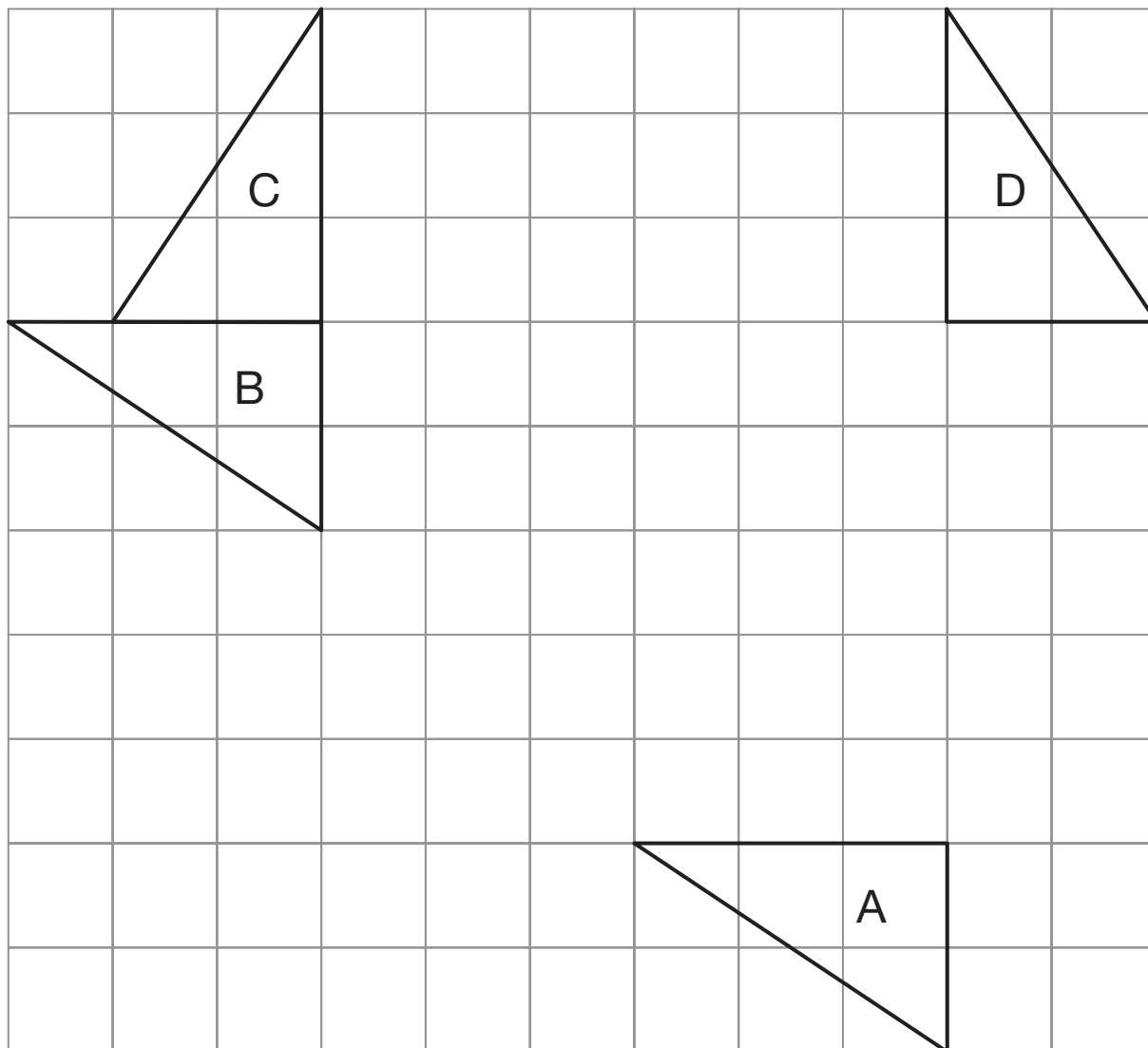
- 10** Toby has a bag of 40 coloured blocks. Without looking, he reaches in and pulls one block out.

Complete the table below to determine the probability of choosing a red, green, purple or yellow block.

Colour	Number in bag	Probability of choosing a block of this colour
Red	6	
Green	10	
Purple		
Yellow		0.2

Show your work.

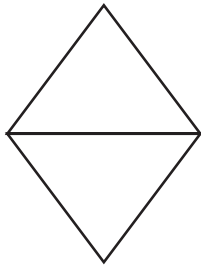
- 11** The grid below shows a triangle that has been moved using transformations from position A to position B, then from position B to position C and finally from position C to position D.



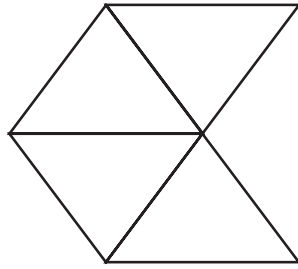
Complete the chart below with descriptions of the transformations needed to move the triangle. Be sure to include all units and directions in the chart. Show points of rotation and lines of reflection on the grid.

Transformation	Type of transformation	Description of transformation
A to B		
B to C		
C to D		

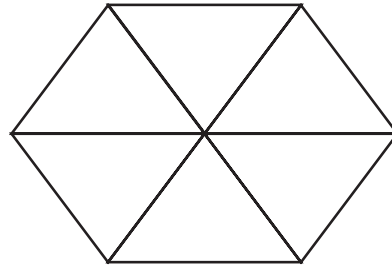
- 12** The pattern shown below is made of triangles.



Term 1



Term 2



Term 3

The pattern continues.

Which of the following represents the number of triangles in Terms 4, 5 and 6?

- a 2, 4, 6
 - b 6, 8, 10
 - c 8, 10, 12
 - d 10, 12, 14
- 13** What is the value of $0.730 - 0.156$?
- a 0.083
 - b 0.426
 - c 0.574
 - d 0.626

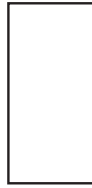
- 14** The quadrilaterals shown below are ordered from smallest to largest based on a geometric property.



parallelogram



trapezoid



rectangle

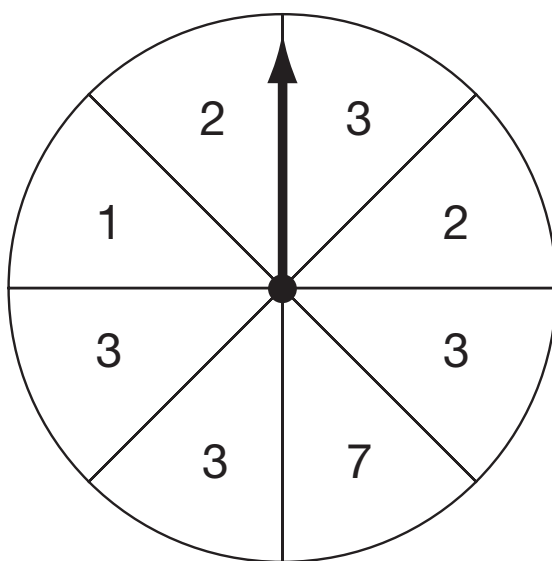


square

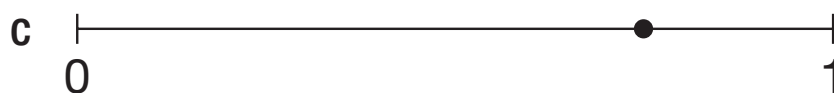
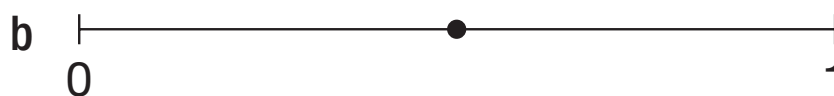
Which geometric property was used?

- a** number of acute angles
- b** number of lines of symmetry
- c** number of pairs of equal sides
- d** number of pairs of parallel sides

15 A spinner is shown below.



On which of the following number lines does the point represent the probability of spinning an even number?



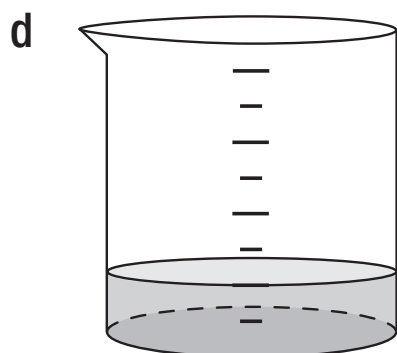
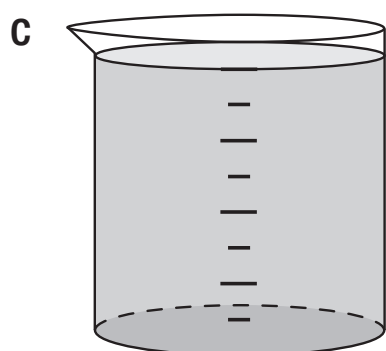
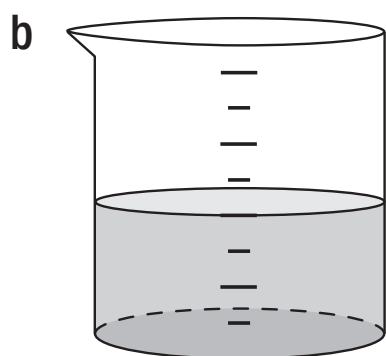
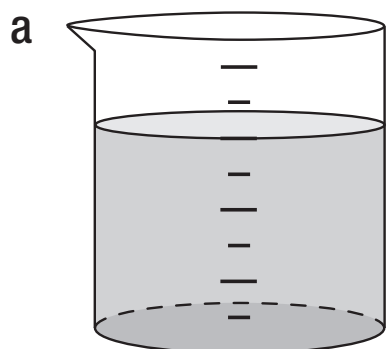
16 A fire truck has a ladder measuring 3 units in length.

Which unit would be most appropriate to measure the ladder?

- a kilometre
- b decimetre
- c decametre
- d centimetre

17 Each beaker of water below has a capacity of 2 L.

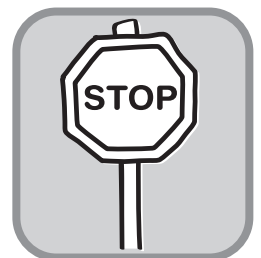
Which beaker appears to have about 500 mL of water in it?



- 18** Mrs. Garrett sends surveys to 120 students, and 78 students return the survey.

Which statement best describes the percent of students who return the survey?

- a exactly 50%
- b exactly 75%
- c between 50% and 75%
- d between 75% and 100%



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Section 2

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- 1** identify decimal numbers represented on a grid (Knowledge and Understanding)
- 2** solve problems involving the addition of decimal numbers (Application)
- 3** determine a ratio (Thinking)
- 4** solve a problem involving fractions, decimal numbers and percents (Thinking)
- 5** estimate the area of a shape (Application)
- 6** describe the net of a figure (Knowledge and Understanding)
- 7** compare the areas of two polygons (Thinking)
- 8** calculate the area of polygons (Application)
- 9** describe a location in the first quadrant of a graph (Application)
- 10** describe a polygon (Knowledge and Understanding)
- 11** construct a polygon (Application)

- 12** identify and extend a growing pattern (Thinking)
- 13** solve an algebraic equation involving variables (Application)
- 14** identify a pattern given the rule (Application)
- 15** determine the theoretical probability of an outcome in a probability experiment (Thinking)
- 16** select an appropriate graph for given data (Knowledge and Understanding)
- 17** interpret data between graphs (Application)
- 18** solve problems involving data in graphs (Thinking)

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2 Carlton Street, Suite 1200
Toronto ON M5B 2M9

Telephone: 1-888-327-7377

Web site: www.eqao.com

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