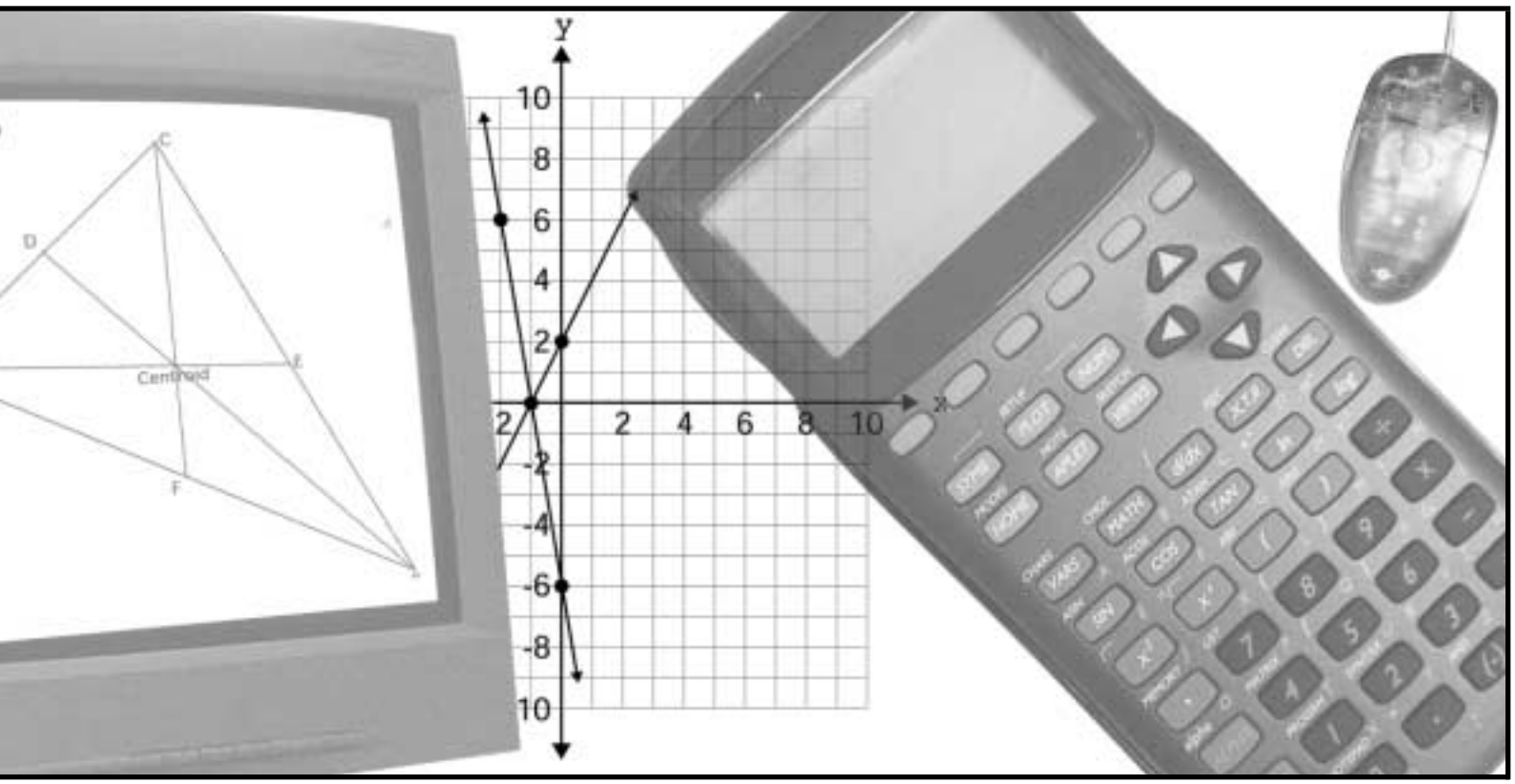
Grade 9 Assessment of Mathematics, 2001–2002



Multiple Choice

Academic Program

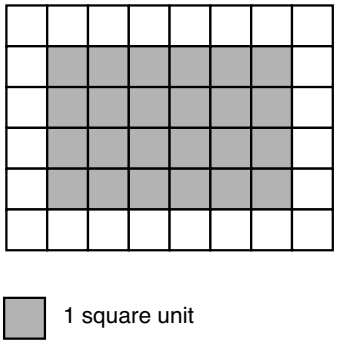
EQAO
Education
Quality and
Accountability
Office

Directions to Students About Answering Multiple-Choice Questions

1. For this part of the assessment, make sure that you have the following materials along with *Booklet 1*:
   - a Student Answer Sheet
   - an HB pencil or a pen
   - a ruler and a protractor
   - a scientific calculator or graphing calculator
   - some paper for rough work
2. Be sure to read the problem and all four answer choices for each question carefully. When you choose an answer, fill in the appropriate circle on your answer sheet.
3. Always choose the best answer. Mark only one answer for each question.
4. There are 24 questions in *Booklet 1*. Try to answer all of them. Do not spend too much time on any one question.
5. Figures in this section are not drawn to scale.
6. Now do the following sample question. Fill in your choice below the sample question.

Sample Question

1. Find the area of the shaded region of the rectangle below.



A 16 square units

B 24 square units

C 30 square units

D 36 square units

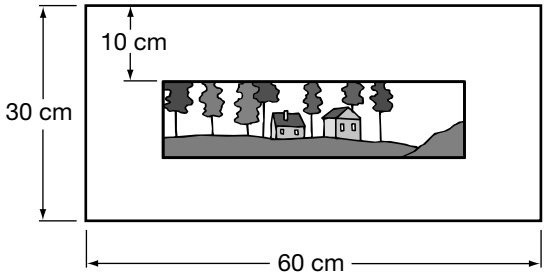
1. Ⓐ Ⓑ Ⓒ Ⓓ

You should have filled in circle Ⓑ. If you did not mark the circle that goes with B, put an X through the incorrect answer and fill in the correct answer.

7. You will have **30 min** to do the 24 multiple-choice questions.
8. When you see the 

sign, you have completed *Booklet 1*. Check your answers. Then wait quietly for directions from your teacher.

1. The frame of a picture measures 60 cm by 30 cm. The border around the picture is 10 cm wide.



What are the dimensions of the **picture**?

A 40 cm × 10 cm

B 50 cm × 20 cm

C 50 cm × 30 cm

D 60 cm × 30 cm

2. Tim shows the steps he took in simplifying the following algebraic expression:

$$\frac{(a^2)^3}{a^2 \times a^3}$$

$= \frac{a^5}{a^2 \times a^3}$ Step 1

$= \frac{a^5}{a^{2+3}}$ Step 2

$= \frac{a^5}{a^5}$ Step 3

$= 1$ Step 4

In which step did Tim make an **error**?

F Step 1

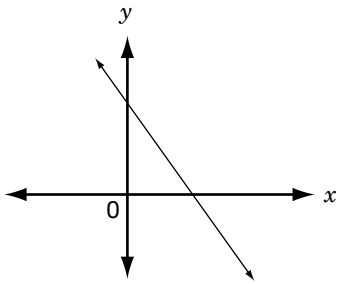
G Step 2

H Step 3

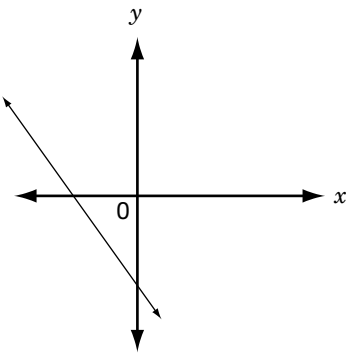
J Step 4

3. Which graph is the best match to a sketch of $y = -3x - 4$?

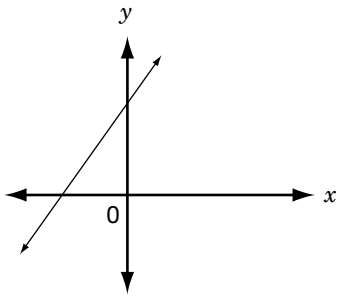
A



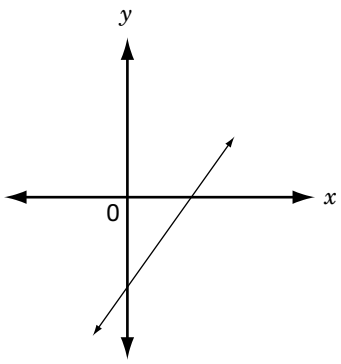
B



C

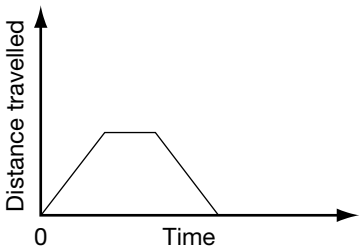


D

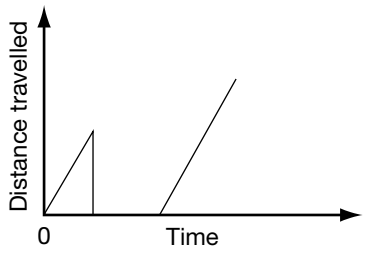


4. Nicole rides her bike to school in the morning. She stops at a store for about 5 min when she is halfway to school. Which graph below best describes this situation?

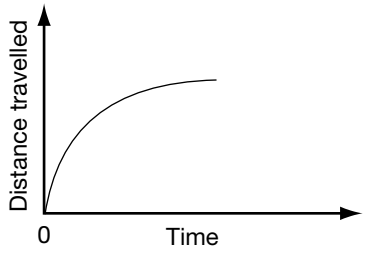
F



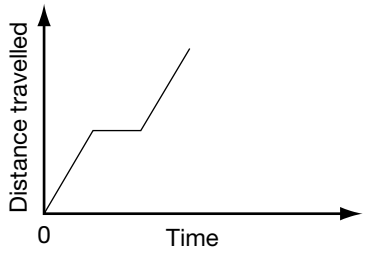
G



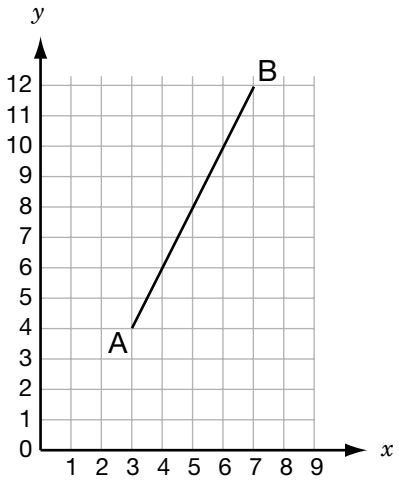
H



J



5. If A is (3, 4) and B is (7, 12), which point is on the line segment AB?



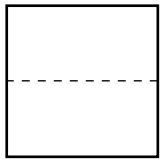
A (3, 5)

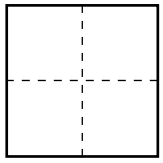
B (4, 8)

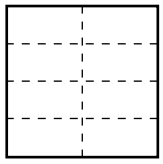
C (5, 9)

D (6, 10)

6. Sylvie folds a large piece of paper in half. The fold divides the paper into two equal parts. She folds it in half again. When she unfolds it, the folds divide the paper into four equal parts.


1 fold, 2 parts


2 folds, 4 parts


3 folds, 8 parts

She continues to fold and unfold the paper until the folds divide the paper into 64 equal parts.

How many times altogether has Sylvie folded the paper?

F 5 times

G 6 times

H 7 times

J 8 times

7. Which table of values shows a non-linear relationship between x and y?

A

x	y
1	0
2	7
3	26
4	63

B

x	y
1	5
2	9
3	13
4	17

C

x	y
1	–7
2	–9
3	–11
4	–13

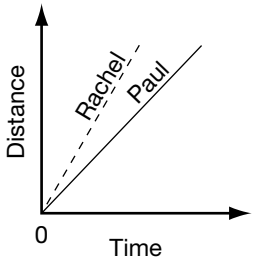
D

x	y
1	–5
2	7
3	19
4	31

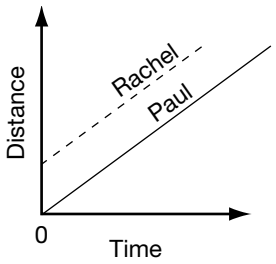
8. Paul and Rachel are riding their bikes from their school to the park. They both leave at the same time and from the same location. However, Rachel pedals faster and gets to the park ahead of Paul.

Which distance-time graph best illustrates their bike trips?

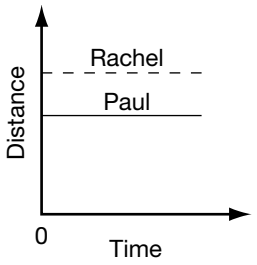
F



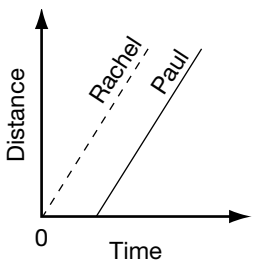
G



H



J



9. Juan shows the steps he took in rearranging a formula:

Given $P = 2(l + w)$

Step 1 $P = 2l + 2w$

Step 2 $P + 2l = 2w$

Step 3 $\frac{P + 2l}{2} = w$

Step 4 $\frac{P}{2} + l = w$

In which step did Juan make an error?

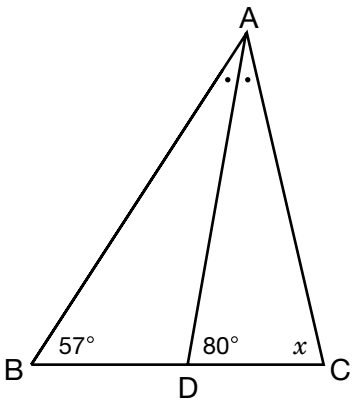
A Step 1

B Step 2

C Step 3

D Step 4

10. AD is the angle bisector of $\angle BAC$. $\angle ABD = 57^\circ$ and $\angle ADC = 80^\circ$. What is the value of angle x?



F 50°

G 57°

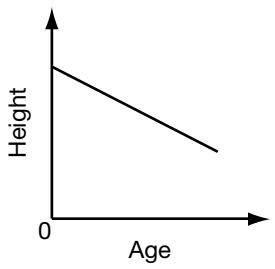
H 70°

J 77°

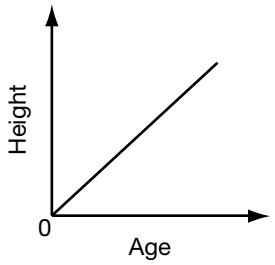
11. Nicole measures the heights of children at a child care centre and finds that the height of a child increases non-linearly as the child's age increases.

Which graph represents Nicole's findings?

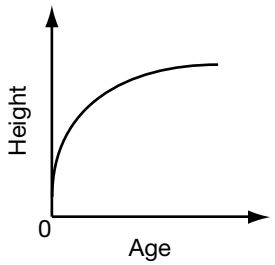
A



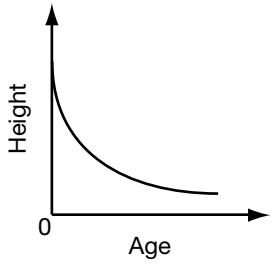
B



C



D



12. What is the equation of a line passing through the points (2, 5) and (4, 11)?

F $y = x - 3$

G $y = 2x - 1$

H $y = 3x - 1$

J $y = 4x - 3$