ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

OECD PISA

OECD Programme for International Student Assessment

Learning for Living

Date of Test / / 2009

Day Month

PRACTICE BOOKLET

PRINCE EDWARD ISLAND PISA WORKSHOP

FEBRUARY 2009

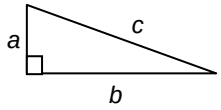
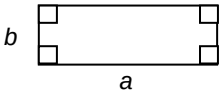
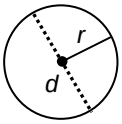
Council of Ministers of Education, Canada
Conseil des ministres de l'Éducation (Canada)

Project Consortium:

Australian Council for Educational Research (ACER)
Netherlands National Institute for Educational Measurement (CITO)
Educational Testing Service (ETS, USA)
National Institute for Educational Policy Research (NIER, Japan)
Westat (USA)

FORMULA SHEET

The following formulae are provided to help you answer the mathematics questions in the test booklet. Some of these formulae may be useful for some questions.

Diagram	Description	Formula
	**Pythagoras' rule** for a right-angled triangle with sides *a, b* and *c*, where *c* is the hypotenuse.	$a^2 + b^2 = c^2$
	The **area** of a rectangle, with sides *a* and *b*.	$Area = a \times b$
	The **circumference** of a circle with radius *r,* OR with a diameter *d.*	$Circumference = 2 \times \pi \times r$ $\approx 6.28 \times r$ or $Circumference = \pi \times d$ $\approx 3.14 \times d$
	The **area** of a circle with radius *r,* OR with a diameter *d.*	$Area = \pi \times r^2$ $\approx 3.14 \times r^2$ or $Area = \frac{1}{4} \times \pi \times d^2$ $\approx 0.79 \times d^2$

GENERAL DIRECTIONS

In this booklet, you will find a combination of reading, science and mathematics questions. There are many different booklets, so people around you could be working on booklets that are not the same as yours.

Read each question carefully and answer it as well as you can.

Some of the questions are about your attitude or opinion regarding certain issues. These questions are set out differently from the others – they appear inside a shaded box. THERE IS NO CORRECT ANSWER to these questions and they will not count in your test score, but it is important that you answer them truthfully.

Do not start working through the test questions until you are told to.

First you are going to do a practice exercise so you know what kinds of questions to expect on the test. The questions in this practice exercise are based on the material below, "The Fastest Runners".

The following table gives the running times for the Year 2000 Olympic Gold medallists in the 100m, 200m, 400m and 800m events.

Event	Men	Women
100m	9.87	10.75
200m	20.09	21.84
400m	43.84	49.11
800m	1:45.08	?

Some of the questions will be followed by four or more possible answers, each indicated with a letter next to it. For these questions, circle the letter next to the answer you consider to be correct. This is illustrated in Example 1.

EXAMPLE 1

Which one of the following is the most likely running time for the gold medallist of the Women's 800m race?

A 1:00.18
B 1:20.43
C 1:48.02
(D) 1:56.15

The letter D has been circled because the Women's 800m time is likely to be more than the Men's 800m time, and the difference is likely to be more than 6 seconds because there is nearly that difference over 400m.

If you decide to change an answer to a question, either clearly erase your answer OR put an "X" over your first choice and then put a circle over the correct answer as shown in Example 2.

EXAMPLE 2

Which one of the following is the most likely running time for the gold medallist of the Women's 800m race?

A 1:00.18
B 1:20.43
C 1:48.02
D 1:56.15

As you can see, Answer B was selected first and then changed to D.

Some of the questions ask you to give several answers by circling one answer in each row of a table, as in Example 3.

EXAMPLE 3

In the table below, circle "True" or "False" for each of the statements.

Statement	**Circle "True" or "False"**
For Olympic running races of the same distance, in general, men run faster than women.	True / False
The time difference between the men's and the women's race is about the same whatever the race distance.	True / False

The completed answer should look like this. Notice that one answer needs to be circled in EVERY row.

Statement	**Circle "True" or "False"**
For Olympic running races of the same distance, in general, men run faster than women.	(True) / False
The time difference between the men's and the women's race is about the same whatever the race distance.	True / (False)

For other questions you will be asked to write short answers in the space provided in your booklet. In these answers, you might need to show calculations, or use words or drawings. Example 4 shows a question that asks for this type of short answer.

EXAMPLE 4

Calculate the running time in **seconds** for the Men's 800m gold medallist. Show your work.

.....

To answer this question correctly, you should write something like the following:

1:45.08 = 60 secs + 45.08 secs = 105.08 seconds

Another type of question will ask you to give reasons or an explanation. For these questions, there are many ways of answering correctly. You will be marked on the way you demonstrate your understanding of the material, and on the kind of thinking you show. Example 5 shows a question that asks for this type of answer.

EXAMPLE 5

The following gives the gold medallists' running times for the men's 100m sprint in 1896, 1956 and 2000.

Year	Time in seconds
1896	12.0
1956	10.5
2000	9.87

Give two reasons why you think the running times are getting shorter over the years.

.....

.....

To answer this question you should write your answer on the lines provided. The number of lines gives some indication of how long your response should be.

When a space is provided instead of lines, please use this space to show all your work.

These answers are examples that would EACH be given full credit for Example 5:

- People are in better health than before, and the training methods are more scientific.
- There are specially made shoes and clothes that improve performance. People now, on average, are generally taller than people 100 years ago.
- The running tracks have improved over the years. There are special sports training institutes for training athletes.

Notice that all of these answers, although different, include an explanation that shows an understanding of the question AND gives two reasons for the answer.

You need to be very careful when answering questions like the one shown in Example 6.

EXAMPLE 6

Can these questions be answered by scientific experiments? Circle "Yes" or "No" for each question.

Can this question be answered by scientific experiments?	**Circle "Yes" or "No"**
Is it faster to run 400m in a circle than in a straight line?	Yes / No
Will the winning time for the women's 400m race at the 2012 Olympic Games be a world record?	Yes / No

*In the first case, you are **not** being asked whether it is faster to run 400m in a circle than in a straight line. Rather, you are being asked whether it is possible to find out the answer by conducting scientific experiments.*

*Similarly, in the second case you are **not** being asked whether the winning time for the women's 400m race at the 2012 Olympic Games will be a world record. Rather, you are being asked whether it is possible to find out the answer by conducting scientific experiments.*

To answer Example 6 correctly, you should circle "Yes" in the first row and "No" in the second row.

Other questions that you will find throughout the booklet ask for your attitude or opinion about certain issues. These questions are in a shaded box to remind you that there is no correct answer for them and that they will NOT count in your test score.

*These questions ask you to indicate how strongly you agree with a number of statements about certain issues. For each statement, you should check the box that best indicates your own **opinion** about the statement. This is illustrated in Example 7.*

EXAMPLE 7

How much do you agree with the following statements?

Check only one box in each row.

	Strongly Agree	*Agree*	*Disagree*	*Strongly Disagree*
Everyone should have to do sport at school.	☐ 1	☐ 2	☐ 3	☐ 4
Physical exercise is a waste of time.	☐ 1	☐ 2	☐ 3	☐ 4
Physical exercise helps you study better.	☐ 1	☐ 2	☐ 3	☐ 4

In some questions, a fictitious country called "Zedland", and a fictitious currency "zed" are used.

A formula sheet is provided on the inside of the front cover of the booklet for use with mathematics questions.

Please STOP here.

DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE TOLD TO DO SO.

RUNNERS

FEEL GOOD IN YOUR RUNNERS

For 14 years the Sports Medicine Centre of Lyon (France) has been studying the injuries of young sports players and sports professionals. The study has established that the best course is prevention … and good shoes.

Knocks, falls, wear and tear...

Eighteen per cent of sports players aged 8 to 12 already have heel injuries. The cartilage of a footballer's ankle does not respond well to shocks, and 25% of professionals have discovered for themselves that it is an especially weak point. The cartilage of the delicate knee joint can also be irreparably damaged and if care is not taken right from childhood (10–12 years of age), this can cause premature osteoarthritis. The hip does not escape damage either and, particularly when tired, players run the risk of fractures as a result of falls or collisions.

According to the study, footballers who have been playing for more than ten years have bony outgrowths either on the tibia or on the heel. This is what is known as ""footballer's foot", a deformity caused by shoes with soles and ankle parts that are too flexible.

Protect, support, stabilize, absorb

If a shoe is too rigid, it restricts movement. If it is too flexible, it increases the risk of injuries and sprains. A good sports shoe should meet four criteria:

Firstly, it must *provide exterior protection*: resisting knocks from the ball or another player, coping with unevenness in the ground, and keeping the foot warm and dry even when it is freezing cold and raining.

It must *support the foot*, and in particular the ankle joint, to avoid sprains, swelling and other problems, which may even affect the knee.

It must also provide players with good *stability* so that they do not slip on a wet playing field or skid on a surface that is too dry.

Finally, it must *absorb shocks*, especially those suffered by volleyball and basketball players who are constantly jumping.

Dry feet

To avoid minor but painful conditions such as blisters or even splits or athlete's foot (fungal infections), the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in. The ideal material for this is leather, which can be water-proofed to prevent the shoe from getting soaked the first time it rains.

Use the article on the opposite page to answer the questions below.

Question 1: RUNNERS

R110Q01

What does the author intend to show in this text?

A That the quality of many sports shoes has greatly improved.
B That it is best not to play football if you are under 12 years of age.
C That young people are suffering more and more injuries due to their poor physical condition.
D That it is very important for young sports players to wear good sports shoes.

Question 2: RUNNERS

R110Q04- 0 1 9

According to the article, why should sports shoes not be too rigid?

.....

Question 3: RUNNERS

R110Q05- 0 1 9

One part of the article says, “A good sports shoe should meet four criteria.”

What are these criteria?

.....

.....

.....

.....

Question 4: RUNNERS

R110Q06

Look at this sentence from near the end of the article. It is presented here in two parts:

“To avoid minor but painful conditions such as blisters or even splits or athlete’s foot (fungal infections),…” *(first part)*

“…the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in.” *(second part)*

What is the relationship between the first and second parts of the sentence?

The second part

A contradicts the first part.
B repeats the first part.
C illustrates the problem described in the first part.
D gives the solution to the problem described in the first part.

R091: MORELAND

The Moreland Library System gives new library members a bookmark showing its Hours of Opening. Refer to the bookmark to answer the questions which follow.

Question 5: MORELAND

R091Q01- 0 1 8 9

What time does the Fawkner Library close on Wednesday?

.....

Question 6: MORELAND

R091Q02

Which library is still open at 6 p.m. on Friday evening?

A Brunswick Library
B Campbell Turnbull Library
C Coburg Library
D Fawkner Library
E Glenroy Library

R107: WARRANTY

Warranty Text 1

Camera Shots

Video House

89 ELIZABETH STREET, Victoria, British Columbia B1B 2A3
PHONE: 555-1313 FAX: 555-1313
http://www.camerashots.com.

CUSTOMER
SARAH BROWN
151 GLENLYON STREET
Victoria, BC B1B 2A4

CAMERA SHOTS VIDEO HOUSE
89 ELIZABETH STREET
Victoria, British Columbia B1B 2A3
555-1313

INVOICE 26802	DATE 18/10/99	TIME 12:10
ACCOUNT 195927	SALES 24 RAY	REG. 16

PRODUCT	DESCRIPTION	*SERIAL No*	LIST	QTY	NET	TOTAL	EX.
150214	ROLLY FOTONEX 250 ZOOM	30910963		1	249.08	249.08	X
33844	TRIPOD			1	5.66	5.66	X
	Transaction . . . . . Amount Visa/Bank Card $254.74	. . . Change			Sub-Total Total	254.74 254.74	

Thank you for your business

On the opposite page is the receipt that Sarah received when she bought her new camera. Below is the warranty card for the camera. Use the information from the receipt to answer the questions which follow.

Warranty Text 2

ONE YEAR WARRANTY: (Private Users)

VALID ONLY IN CANADA

VIDEO HOUSE & COMPANY PTY LTD – ACN 008 458 884 ('VIDEO HOUSE') warrants to the initial owner that the camera is free of any defects in material or workmanship. This warranty is not transferable.

Video House will service, repair or replace at its election, and free of charge, any part which is found upon inspection by Video House to be defective in material or workmanship during the warranty period(s).

PLEASE PRINT CLEARLY

NO. M 409668

Camera – Model .....

.....

Serial No: .....

Name of Owner: *SARAH BROWN*

Address: *151 GLENLYON ROAD*

VICTORIA, BRITISH COLUMBIA

B1B 2A4

Date Purchased: .....

Purchase Price: .....

Rubber Stamp of Dealer

PLEASE NOTE:

Post Immediately – Postage Stamp Necessary

This warranty card should be completed and returned to Video House within 10 days of purchase.

International Warranty Card issued on request.

Question 7: WARRANTY

R107Q01

Use the details on the receipt to complete the warranty card.

The name and address of the owner have already been filled in.

Question 8: WARRANTY

R107Q02- 0 1 8 9

How long does Sarah have, to return the warranty card?

.....

Question 9: WARRANTY

R107Q03- *0 1 8 9*

What else did Sarah buy while she was in the store?

.....

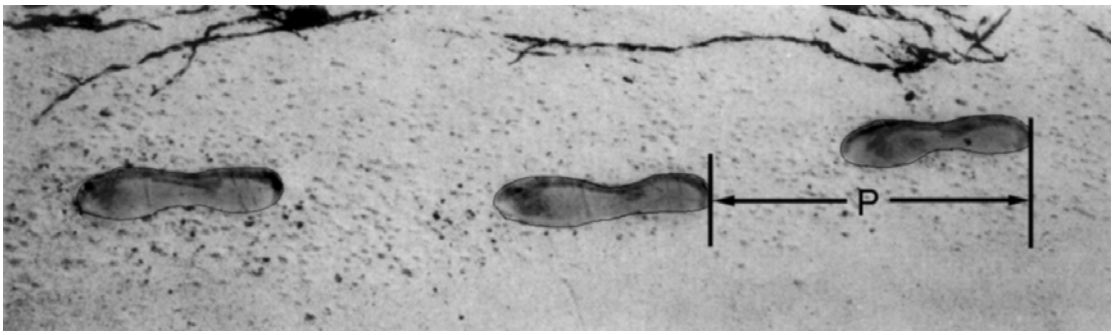
Question 10: WARRANTY

R107Q05- 0 1 8 9

The words “Thank you for your business” are printed on the bottom of the receipt. One possible reason for this is simply to be polite. What is another possible reason?

.....

WALKING



The picture shows the footprints of a man walking. The pacelength *P* is the distance between the rear of two consecutive footprints.

For men, the formula, $\frac{n}{P} = 140$, gives an approximate relationship between *n* and *P* where,

n = number of steps per minute, and

P = pacelength in metres

Question 11: WALKING

M124Q03- 00 11 21 22 23 24 31 99

Bernard knows his pacelength is 0.80 metres. The formula applies to Bernard's walking.

Calculate Bernard's walking speed in metres per minute and in kilometres per hour.
Show your work.

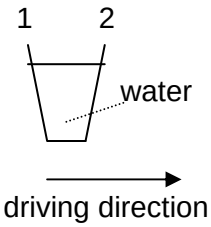
.....

BUSES

Question 12: BUSES

S127Q01

A bus is driving along a straight stretch of road. The bus driver, named Ray, has a cup of water resting on the dashboard:



driving direction

Suddenly Ray has to slam on the brakes.

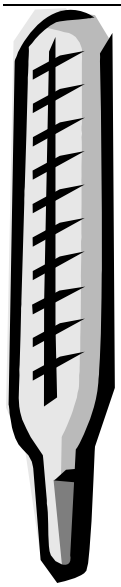
What is most likely to happen to the water in the cup?

A The water will stay horizontal.
B The water will spill over side 1.
C The water will spill over side 2.
D The water will spill but you cannot tell if it will spill at side 1 or side 2.

EFFORT SURVEY

How much effort did you invest?

Please try to imagine an actual situation (at school or in some other context) that is highly important to you personally, so that you would try your very best and put in as much effort as you could to do well.

In this situation you would mark the highest value on the "effort thermometer", as shown below:	Compared to the situation you have just imagined, how much effort did you put into doing this test?	How much effort would you have invested if your marks from the test were going to be counted in your school marks?
		
☒ 10	☐ 10	☐ 10
☐ 9	☐ 9	☐ 9
☐ 8	☐ 8	☐ 8
☐ 7	☐ 7	☐ 7
☐ 6	☐ 6	☐ 6
☐ 5	☐ 5	☐ 5
☐ 4	☐ 4	☐ 4
☐ 3	☐ 3	☐ 3
☐ 2	☐ 2	☐ 2
☐ 1	☐ 1	☐ 1

Thank you