

SUBJECT TEST

Mathematics

GRADE

9

Tests which are re-used are protected by paragraph 3 of Chapter 4 of the Official Secrets Act.

The intention is for this test to be re-used until **2016-06-30**.

This should be considered when determining the applicability of the Official Secrets Act.

Spring 2010

Part C

Name

Part C – China Theme



After each question the maximum total number of points possible for your solution is shown. For example (2/1) indicates that the question can give a maximum of 2 g-points and 1 vg-point. You may demonstrate MVG-qualities in your solutions to questions marked with the symbol α .

Complete solutions are required for all questions.

A mere answer does not give any points except for the question marked *Only answer is required.*

Complete solution means that your solution must be clear enough so that other persons may easily read and understand what you mean. It is important that you present all your work. You may get some points, even for a partial solution.

Aids: Access to calculator, ruler and formula page.

Time: 100 minutes.

Name: _____

School: _____ Class: _____

Birth date: Year ____ Month ____ Day _____

Female ☐ Male ☐

*Solutions and answers must be written on separate paper, not on this question paper.
The question paper must be handed in, together with your solution.*



Illustrations: Ulf Sandberg

1. Lin buys a tin can of tea for 60 Yuan.

- a) How much does it cost calculated in Swedish Crowns?
- b) A can of tea weighs 400 gram when filled to the top. The can weighs 280 gram when it is half full. How much does the tin can weigh when empty?

Exchange rate January 1, 2010
1 Yuan = 1.05 SEK
SEK means Swedish Crown

(2/0)

(1/1)

2. **Gobi Chicken**

3 portions

Ingredients:

450 g chicken fillet	250 ml sweet & sour sauce
400 g wok vegetables	1 tsp chopped ginger
3 tbsp peanut oil	1 tsp paprika spice powder
225 g bamboo shoots	2 ml pepper
175 g sweet pea pods	2 ml salt
1 pressed garlic pip	



Source: Fukt & Grönt
Främjandet

- a) How many servings can you make using 1.2 kg of chicken fillet if you follow the recipe?
- b) Jacob wants to make 10 servings. Is a bottle with 6 dl sweet & sour sauce enough, if he follows the recipe? Explain your answer.

(2/0)

(1/0)

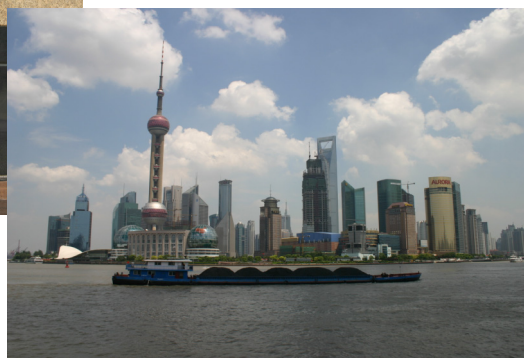


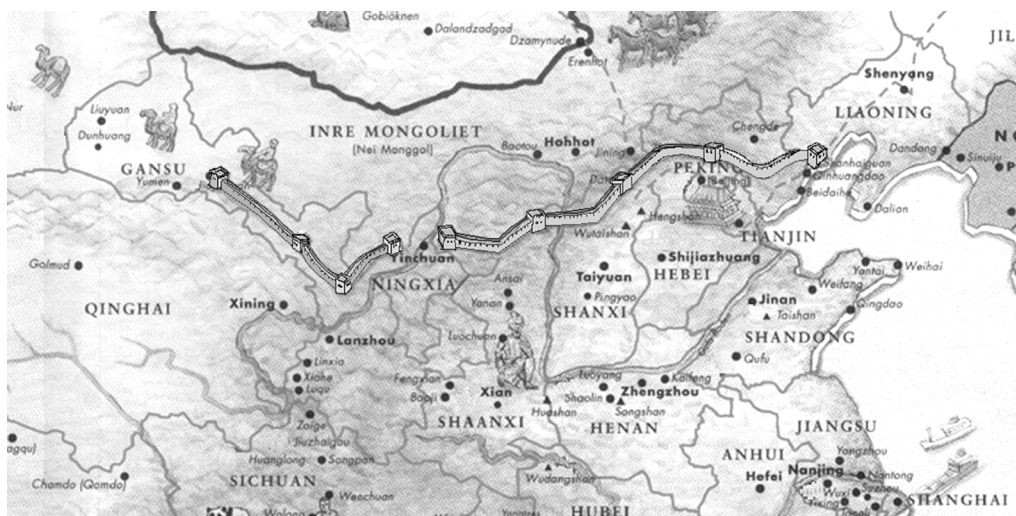
Photo: Linda Klaesson



Photo: Linda Klaesson

The picture shows a section of the Great Wall of China.

3.



Scale 1 : 25 000 000

On an Internet site it says that the two parts of the Great Wall drawn on the map are more than 3 000 km long together. Can this be true? Explain your answer.

(2/0)

4. Yao Ming is the tallest basketball player in the world. He comes from China and plays on a well-known team in the USA. In the table below you can see how tall the players on this team are.

201 cm	201 cm	203 cm	183 cm	206 cm
203 cm	198 cm	191 cm	206 cm	183 cm
203 cm	218 cm	206 cm	196 cm	229 cm



Photo: Scampix/Dan Ryan

- a) Find the average length and median length of the team players.

(2/0)

- b) The coaches for the basketball team replace the three shortest players with three taller ones. In so doing the average length of the team's players increases by 2 cm. Give a suggestion for how tall the three new players might be.

(0/2)

5. In archaeological excavation in China many skeleton parts have been found. Using the length of the thigh-bone (x cm) it is possible to determine approximately how tall a person was when living.

Body length (B cm) can be calculated using the formula:

$$B = 2.6x + 65$$



Photo: Astrid McCormack

- a) Use the formula to calculate the body length for a person whose thigh-bone was 35 cm long.

(2/0)

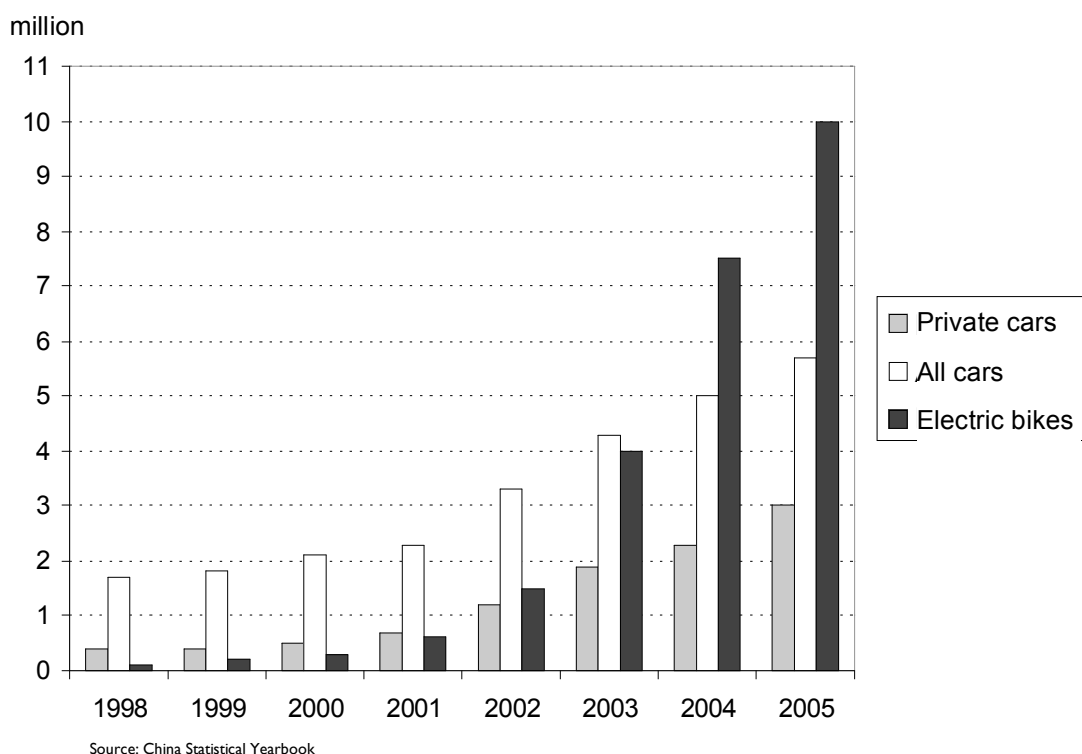
- b) How long is the thigh-bone for the basketball player Yao Ming according to the formula. He is 229 cm tall.

(1/1)

- c) Investigate whether the formula can hold for small children.

(0/2) ✖

6. The diagram shows how many million cars and electric bikes that were manufactured in China during the years 1998 to 2005.



- a) How many electric bikes were made in 2005? *Only answer is required.* (1/0)
- b) By *what percentage* has the production of electric bikes increased from 2003 to 2004? (1/1)
- c) Kalle says that the increase in production of electric bikes from 2002 to 2003 is of the same size as the increase in production of electric bikes from 2004 to 2005. Ebba says that the increase is greater from 2002 to 2003 than it is from 2004 to 2005. Both of them are right. Explain why using reasoning and/or calculations. (1/1)

✕



Photo: Scampix

7. On January 1, 2008 China had 1 336 *million* inhabitants.
- a) On January 1, 2008 the population of the earth was 6.7 *billion*. What fraction or percentage of the earth's population lived in China on January 1, 2008? (2/0)
- b) In China many people move from the countryside to various cities. Therefore many of the city populations increase rapidly. The city of Nanhou had 4.7 million residents in 2008. It is estimated that the number of residents will increase by about 6 % per year during the coming five years. About how many residents will there be in Nanhou in 2013? (1/2) ✖

8.



Photo: Scarpia/Sylvain Granddam

The Chang family has a rice field with area 1.5 hectare. Rice plants must be grown in fields that are covered with water. Therefore they need to raise the water level by 12 cm on their rice field. How many cubic meters of water are needed for this?

1 hectare = 10 000 square meters

(0/2)

9. The Chang family takes the train from Beijing to Shanghai. The family consists of Grandma, Grandpa, Mother, Father and daughter Ling. Altogether the tickets cost 1 755 yuan. Ling who is 15 yr old gets a 25 % discount and Grandma and Grandpa, who are seniors, go for half-price. The parents pay full price. What is the *train ticket price for one parent*? (1/2) ✖

