SUBJECT TEST

Mathematics

GRADE 9

Spring 2012

Part B1

Name

Skolverket

Instructions – Part B1

This part consists of short questions to be solved without a calculator. A correct answer gives 1 g-point (1/0) or 1 vg-point (0/1).

Time: 80 minutes for Part B1 and Part B2 together. We recommend that you use 30 minutes at the most for working on Part B1. You may not use your calculator until you have handed in Part B1.

Only the answers are required. Write your answers in the spaces provided on this question page.

You can save time by doing mental arithmetic as much as possible.

Name: _____

School:_____ Class: _____

Birth date: Year _____ Month_____ Day_____

Female ❒ Male ❒

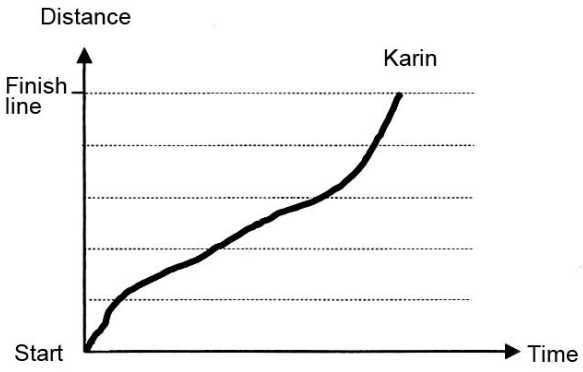
1. Calculate $8 \cdot 0.4$ Answer:_____ (1/0)

2. Study this sequence of numbers.
Fill in the missing numbers.

___ ___ 4 7 10 13 (1/0)

3. The chance of winning on a lottery ticket is 20 %. How many winning tickets can your expect if you buy 30 tickets? Answer:_____ (1/0)

4. Karin and Annika compete in a running race. The graph shows how Karin ran the race from start to finish. Karin was in the lead at the beginning of the race but Annika won. Draw a graph that shows how Annika might have run the race.



(1/0)

5. Robin has five cards that show different shapes. He mixes the cards and chooses one of them at random.

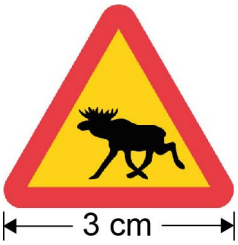
What is the probability that he chooses the card showing a quadrilateral? Answer:_____ (1/0)

6. Which of the following numbers is the best approximation for $\frac{148}{0.53}$?

Circle your answer.

50 75 100 300 750 (1/0)

7.



In the picture the length of the sign is 3 cm. In reality it is 6 dm long. In what scale is this picture drawn? Circle your answer.

1:2 1:6 1:20 20:1 3:6 (1/0)

8. The price of an article is 400 kr and the price is to be reduced. Ebba calculates the new price as follows:

$0.80 \cdot 400$

By what percentage is the price reduced? Answer:_____% (1/0)

9. Solve the equation $2.35 = 0.5 + x$ Answer: $x =$_____ (1/0)

10. Study the number sequences below. Decide whether the number values in the sequences increase, decrease, or are unchanging. Put an X in the box for the correct alternative.

					Increase	Decrease	Unchanging
a)	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	☐	☐	☐
b)	$\frac{1}{2}$	$\frac{2}{4}$	$\frac{3}{6}$	$\frac{4}{8}$	☐	☐	☐
c)	$\frac{3}{2}$	$\frac{4}{3}$	$\frac{5}{4}$	$\frac{6}{5}$	☐	☐	☐

(1/1)

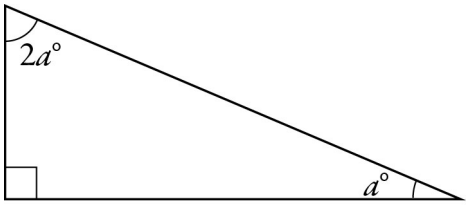
11. The price of petrol is 13.71 kr/liter. About how much do you get back in change if you buy 20 liters of petrol and pay with a 500 kr bill? Circle your answer.

125 kr 225 kr 325 kr 425 kr 480 kr

(0/1)

12. How many degrees is angle *a*?
(The figure is not drawn in true scale.)

Answer:_____°



(0/1)

13. Give an example of two *different numbers in fraction form*, for which the *sum* is $\frac{1}{2}$

Answer:_____ (0/1)

14. 16 teachers at a school travel by car to work. Some of the teacher's carpool and travel together in the same car. Fill in the frequency that is missing in the table.

Number of teachers in the car	Number of cars (frequency)
1	
2	4
3	1

(0/1)

15. Calculate $\frac{(1+2+3)^2}{(1+2)^2}$

Answer:_____ (0/1)

16. Simplify the expression as much as possible

$3a-(2b+a)-4b$

Answer:_____ (0/1)

17. Solve the equation $\frac{12}{1+2x}=3$

Answer: $x =$_____ (0/1)

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