



The Association for Mathematics Education
of South Africa

KWAZULU NATAL PROBLEM SOLVING

MATHEMATICS CHALLENGE 2006

GRADE 5

DATE: THURSDAY 24 AUGUST 2006
DURATION: 1 hour

GENERAL INFORMATION

1. Congratulations on being selected to participate in this challenge.
2. This examination paper consists of 20 questions.
3. Enter your final answer in the correct block on the ANSWER SHEET. Working details are not required.
4. Candidates that qualify to the SECOND ROUND will be required to show full working details.
5. Each question is worth 1 point. No marks are deducted for incorrect answers.
6. Calculators or other computing devices are NOT allowed.
7. Some questions have blanks. You are expected to fill in the blanks.
8. For multiple choice questions, write only the LETTER of your choice.
9. Please do not turn over until the invigilator gives you the signal

1. What number goes in the box?

$$(2 \times \square) - 2 = 8$$

2. $2,5 + 3,0 + 1,5 = \dots\dots\dots$

3. What is the value of 6 in the number 267 382?

- A. 600
B. 6 000
C. 60 000
D. 60 000

4. A boy pours milk from a 2 litre bottle of milk into plastic tumblers that hold 200 ml



when full. How many tumblers will he be able to fill?

5. Find the missing number wxyz in the following subtraction:

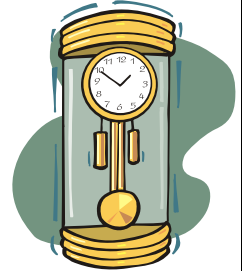
$$\begin{array}{r} 8471 \\ - wxyz \\ \hline 3295 \end{array}$$

[Same as $8471 - wxyz = 3295$]

6. Which fraction is smaller than $0,4$?

$$\frac{2}{5}; \frac{5}{8}; \frac{7}{20}$$

7. My digital watch shows the time as 13:35.



What time did it show 45 minutes earlier?

8. Two numbers add up to 18. One is 4 more than the other.

Find the bigger number.

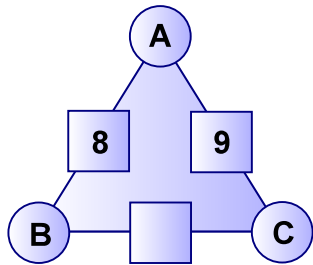
9. Jane earns R39 for $6\frac{1}{2}$ hours of work.



How much does she earn in 1 hour?

10. The sum of two whole numbers in the circles gives the number in the box between them.

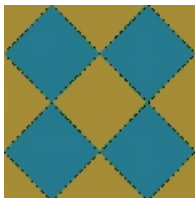
If $A + B = 8$ and $A + B + C = 14$, what number fits the empty box ?



11. The numbers 3, 5, 7 are consecutive odd numbers.

If the sum of three consecutive odd numbers is 171, what are the numbers?

12. What fraction of the given big square do the darker shaded squares occupy?



- A. $\frac{1}{4}$ B. $\frac{1}{2}$
C. $\frac{4}{5}$ D. $\frac{4}{9}$

13. A grade five class raised R30 in a cake sale.



They need R125 to buy a new maths game for their class.

How much will each of the 25 learners need to contribute?

14. The final score in a game between two teams was 3-3, that is 3 points each.

How many possible half time scores were there?

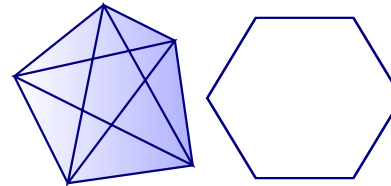
[Note: 8 - 7 is not the same as 7 - 8].

15. Sunil gave Thabo R10,50 which was $\frac{3}{8}$ of his money.

How much did Sunil have before he shared some with Thabo?

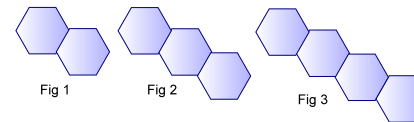


16. A diagonal joins two corners in a polygon as shown in the pentagon below.



How many diagonals does a hexagon have?

17. Figure 1 is made up of 11 matchsticks.



If the pattern continues, how many matchsticks will be needed for figure 100?

18. Gale saved only R2 and R5 coins in her money box.

When the box was full, she emptied it and counted 91 coins altogether.

If the amount totalled to R350, how many R5 coins did she save?

19. Beryl, Kavi and Zami are friends.

One is a secretary, one is a teacher and one is a nurse.

The nurse who lives next door to Kavi, takes Zami to the cinema.

As they enter the cinema, they see the teacher get on a bus.

Which one of them is the secretary ?

20. Holiday Advertisement:

Airfare + 5 days hotel: R3999
Airfare + 7 days hotel: R4699

Using this work out the cost of Airfare + 10 days hotel.