SOUTH AFRICAN MATHEMATICAL LITERACY OLYMPIADS

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Mathematical Literacy Olympiad GRADE 10

DATE: 5 AUGUST 2025

TIME: 90 MINUTES

INSTRUCTIONS:

1. This booklet has 10 multiple choice and 10 open ended questions.
2. Use the answer sheet provided.

   Circle the letter corresponding to your answer.
3. All working details must be done in the space provided.
4. Calculators are permitted.
5. Diagrams are not necessarily drawn to scale.
6. The first 15 problems carry 1 mark each and the next 5 carry 2 marks each.
7. You have 90 minutes for the paper which works out to an average of 4.5 minutes per question.
8. Read the questions carefully before answering.
9. Visit the website: www.saolympiads.co.za.

ENJOY THE OLYMPIAD.

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Grade Ten Mathematical Literacy Olympiad 2025

1. Evaluate:

   $30 + 30 \times \frac{5}{6}$

   (A) 50 (B) 55 (C) 60 (D) 66

2. Lindy was paid R95 per hour. After working for 'n' hours she earned R4275. How many hours did she work for?

   (A) 35 (B) 42 (C) 45 (D) 48

3. In a bakery, 6 kg of wheat flour was mixed with $50\ grams$ of butter. If 1200 kg of wheat flour was used, then determine how many kg of butter was used?

   (A) 10 (B) 11 (C) 12 (D) 13

4. A furniture store offers a dining-room suite for sale. It should be paid off in 42 equal instalments of R 1 078,26. Express (in years) the total repayment period for this offer.

   (A) 2 years (B) 2,5 years (C) 3 years (D) 3,5 years

5. Evaluate:

   $369 \times 2\frac{5}{9}$

   (A) 954 (B) 948 (C) 943 (D) 940

6. Social Grant was increased from R2200 to R2330. Determine the % increase to 1 decimal digit?

   (A) 5 (B) 5.9 (C) 6 (D) 6.1

7. Concrete mixture uses concrete, sand and cement in the ratio 3:2:1. If 24 m^3 of the mixture is needed then determine the quantity of cement required in m^3?

   (A) 4 (B) 6 (C) 9 (D) 12

8. The distance in metres a parachute travels in t minutes is given by:

   $d(t) = -0.5\ t^2 + 30t$

   Determine the height in metres the parachute reached in the 20^{th} minute.

   (A) 600 (B) 500 (C) 440 (D) 400

9. A car travels at an average speed of 100 km/h. If the car leaves at 11am and travels at the same average speed, then at what time will the car reach its destination which is 60km away?

   (A) 11:30 (B) 11:36 (C) 11:45 (D) 11:50

10. The dimensions of a rectangular field measuring 100m by 80m was increased in the ratio 3:2. What is the new perimeter of the field in metres?

    (A) 640 (B) 600 (C) 540 (D) 560

11. 540 chairs are manufactured in 24 hours. How many chairs can be manufactured in 744 hours?

12. A rectangular container are 8m by 3m by 2.7m. Determine the cost of painting the outside of the container including the underside at R400m^2.

13. A school pays 12c per copy for printing and a set up charge of R10000. What will it cost to print 8000 books comprising 140 pages per book?

14. It takes 10 workers 8 days to build a retaining wall. How long will it take 16 workers, working at the same rate to build a similar wall (in days)?

15. Jakes purchased a vehicle to the value of R300 000. He was charged simple interest at a rate of 12% per annum for 5 years. Calculate his monthly instalments.

16. A bag contains 18 red balls; 12 green balls and 10 pink balls. A ball is drawn at random. What is the probability, as a percentage, that the ball is not green?

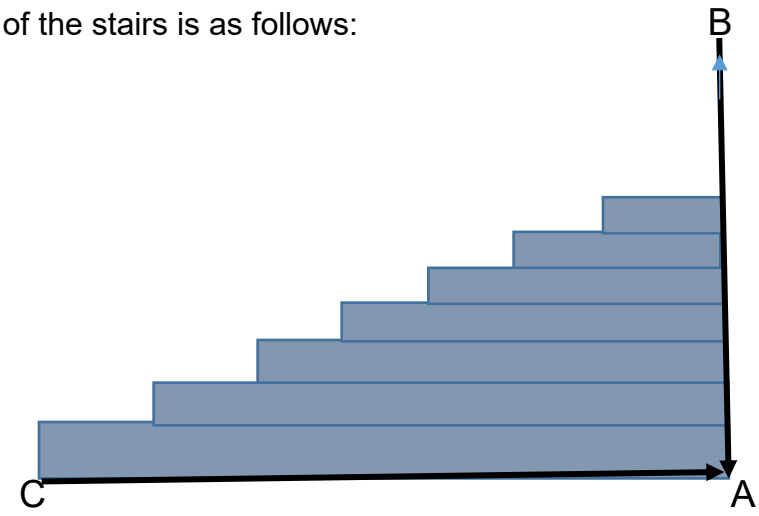
17. A departmental store increased the price of all the items by 20%. After 3 months it was decided to give a discount on all the items to bring it back to their original prices. Determine this discount as a %.

18. The following exchange rates are applied:
    - 4 H s could be exchanged for 5 G s.
    - 3 H s could be exchanged for 2 J s.
    - 2 G s can be exchanged for 3 K s.

    How many J s could one get for 45 K s?

19. According to the map the distance between Cradock and East London is 395 km. Calculate the time (in hours and minutes) that it took Mr Molefe to drive between these two places if he was driving at an average speed of 95 km/h. You may use the following formula: Speed = Distance/Time

20. A section of the stairs is as follows:



The width of each stair is 400mm. The gradient of the stairway having 50 stairs is $\frac{5}{8}$.
If the top of the staircase is represented by B, then determine the height AB.

MARKS: 15 X 1 = 15
5 X 2 = 10

TOTAL = 25