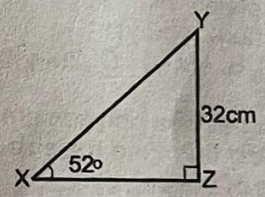
WASSCE 2019 MATHEMATICS (OBJECTIVE TEST) QUESTIONS

1. Express, correct to three significant figures, 0.003597. A. 0.359 B. 0.004 C. 0.00360 D. 0.00359
2. Evaluate: $(0.064)^{-\frac{1}{3}}$
   A. $\frac{5}{2}$ B. $\frac{2}{5}$ C. $-\frac{2}{5}$ D. $-\frac{5}{2}$
3. Solve: $\frac{y+1}{2} - \frac{2y-1}{3} = 4$.
   A. y = 19 B. y = -19 C. y= -29 D. y=29
4. Simplify, correct to three significant figures, $(27.63)^2 - (12.37)^2$. A. 614 B. 612 C. 611 D. 610
5. If $7 + y = 4 \pmod 8$, find the least value of y, $10 \leq y \leq 30$. A. 11 B. 13 C. 19 D. 21
6. If T = {prime numbers} and M = {odd numbers} are subsets of μ = {x: $0 < x \leq 10$, and x is an integer}, find $(T' \cap M')$ A. {4, 6, 8, 19} B. {1, 4, 6, 8, 10} C. {1, 2, 4, 6, 8, 10} D. {1, 2, 3, 5, 7, 8, 9}
7. Evaluate: $\frac{\log_3 9 - \log_2 8}{\log_3 9}$
   A. -⅓ B. ½ C. ⅓ D. - ½
8. If $23_y = 1111_{two}$, find the value of y.
   A. 4 B. 5 C. 6 D. 7
9. If 6, P and 14 are consecutive terms in an Arithmetic Progression (*A.P*), find the value of *P*. A. 9 B. 10 C. 6 D. 8
10. Evaluate: $2\sqrt{28} - 3\sqrt{50} + \sqrt{72}$
    A. $4\sqrt{7} - 21\sqrt{2}$ B. $4\sqrt{7} - 11\sqrt{2}$
    C. $4\sqrt{7} - 9\sqrt{2}$ D. $4\sqrt{7} + \sqrt{2}$
11. If m: n = 2: 1, evaluate $\frac{3m^2 - 2n^2}{m^2 + mn}$
    A. 4/3 B. 5/3 C. 3/4 D. 3/5
12. H varies directly as p and inversely as the square of y. If H = 1, p = 8 and y = 2, find H in terms of p and y.
    A. $H = \frac{p}{4y^2}$ B. $H = \frac{2p}{y^2}$ C. $H = \frac{p}{2y^2}$ D. $H = \frac{p}{y^2}$
13. Solve $4x^2 - 16x + 15 = 0$.
    A. x = 1 ½ or x = -2½ B. x =1½ or x = 2 ½
    C. x = 1 ½ or x = -1½ D. x= -1 ½ or x=-2 ½
14. Evaluate $\frac{0.42+2.5}{0.5 \times 2.04}$, leaving the answer in standard form.
    A. 1.639×10^2 B. 1.629×10^1
    C. 1.639×10^{-1} D. 1.639×10^{-2}
15. Simplify: $\log_{10}6 - 3\log_{10}3 + \frac{2}{3}\log_{10}27$.
    A. $3\log_{10}2$ B. $\log_{10}2$ C. $\log_{10}3$ D. $2\log_{10}3$
16. Bala sold an article for #6,900.00 and made a profit of 15%. Calculate his percentage profit if he had sold it for #6,600.00. A. 5% B. 10% C. 12% D. 13%
17. If 3p = 4q and 9p = 8q-12, find the value of pq. A. 12 B. 7 C. -7 D. -12
18. If $(0.25)^y = 32$, find the value of y.
    A. y= -5/2 B. y = -3/2 C. y = 3/2 D. y= 5/2
19. There are 8 boys and 4 girls in a lift. What is the probability that the first person who steps out of the lift will be a boy? A. 3/4 B. ⅓ C. ⅔ D. 1/4
20. Simplify: $\frac{x^2 - 5x - 14}{x^2 - 9x + 14}$
    A. $\frac{x-7}{x+7}$ B. $\frac{x+7}{x-7}$ C. $\frac{x-2}{x+4}$ D. $\frac{x+2}{x-2}$
21. Which of these values would make $\frac{3p-1}{p^2-p}$ undefined? A. 1 B.⅓ C. -⅓ D. -1
22. The total surface area of a solid cylinder is 165cm². If the base diameter is 7cm, calculate the height. [Take π 22/7]
    A. 7.5cm B. 4.5cm C. 4.0cm D. 2.0cm
23. If $2a = \sqrt{64}$ and $\frac{b}{a} = 3$, evaluate $a^2 + b^2$.
    A. 250 B. 160 C. 90 D. 48
24. 

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    in ΔXYZ, /YZ/ = 32cm, $\angle YXZ = 52^0$ and $XZY = 90^0$. Find, correct to the nearest centimetre, /XZ/. A. 31cm B. 25cm C. 20cm D. 13cm
25. If $\log_x 2 = 0.3$, evaluate $\log_x 8$. A. 2.4 B. 1.2 C. 0.9 D. 0.6
26. An arc subtends an angle of 72 at the centre of a circle. Find the length of the arc if the radius of the circle is 3.5cm. [Take π 22/7] A. 6.6cm B. 8.8cm C. 4.4cm D. 2.2cm
27. Make *b* the subject of the relation $lb = \frac{1}{2}(a+b)h$. A. $\frac{ah}{2l-h}$ B. $\frac{2l-h}{al}$ C. $\frac{al}{2l-h}$ D. $\frac{al}{2-h}$
28. Eric sold his house through an agent who charged 8% commission on the selling price. If Eric received $117,760.00, after the sale, what was the selling price of the house? A. $130,000.00 B. $128,000.00 C. $125,000.00 D. $120,000.00