*KCSEFORECAST TEST*

*REVISION QUIZ*

1. The wages of 7 men for 10 days are sh.18200. what will be the wage of 15 men for 11 days at the same rate?(3mks)
2. A minor arc of a circle subtends an angel of 105° at the centre of the circle. If the radius of the circle is 8.4cm, find the length of the major arc. (Take Π=22/7). (2mks)
3. The diagram below represents a metallic solid used to make a construction tool. The solid has a cylindrical hole to fix the handle. If the diameter of the hole is 7cm, calculate the volume of the metal used to make the solid.(3mks)

18cm

 10cm

 12cm

1. The cost of 2 jackets and 3 shirts was sh.1800. After the cost of the jacket and that of shirts were increased by 20% the cost of 6 jackets and 2 shirts was sh.4800. calculate the new cost of a shirt.(4mks)
2. A circle whose equation $x^{2}+y^{2}+4x-10y+4=0$ touches a straight line at (-7, 3). Find the equation of the line in the form of $y=mx+c$ (3mks)
3. In a nomination for a committee, two people were to be selected at a random from a group of 3 men and 5 women. Find the probability that a man a woman were selected.(2mks)
4. express the position vectors of A and B in terms of I and j.(2mks)
5. The second and third terms of a G.P are 24 and $12(x+1)$ respectively. Given that the sun of the first three terms of the progression is 76, find the whole number value of x and hence the first terms.(5mks)
6. make d the subject of the formula in

 (3mks)

 $p=\frac{1}{2}mn^{2}-\frac{qd2}{n}$

1. juma and wanjiku also bought rice and sugar. Juma bought 36kg of rice and 23kg of sugar and paid sh.8160. wanjiku bought 50kg of rice and 32kg of sugar and paid sh.11340. use the matrix method to determine the price of one kg of rice and kg of sugar.(5mks)
2. A cone 12cm high is cut 8cm from the vertex to form a frustum with a volume of $190cm3$. Find the radius of the cone.(5mks)
3. Solve the inequalities$\frac{1}{4}x-\frac{1}{2}>\frac{1}{3}x-\frac{2}{3}$ (2mks)
4. Maina leaves town A in car heading towards town B, travelling at an average speed of 60km/hr after 2hr wafula’s car is travelling at a speed of 80km/hr, how long will wafula’s car take to overtake maina’s.(3mks)
5. The angle of elevation of a roof top from a point is 22.6°. from another point B which is 12m from the base of the house, the angle of elevation of the roof top is 47.5°.calculate to one decimal place;
6. How far is the roof top is from the ground.(2mks)
7. The dictance between A and B. (2mks)
8. Find without using the mathematical table the values of x which satisfy the equation.$lo$g2$\left( x2-9\right)=3log$22+1. (3mks)
9. The price of a camera is sh.42200. Joseph bought the camera on hire purchase terms by paying a deposit of sh.7200 and cleared the balance in 24 equal monthly instalments of sh.2250.
10. Find the amount of interest paid under the hire purchase.(3mks)
11. Ann arc long, subtends an angle of 70° at the centre of the circle. Calculate the length, correct to one decimal place, of a chord that subtends an angle of 90° at the centre of the same circle.(4mks)
12. Determine the amplitude and period of the function,$y=2cos⁡(3x-45)$° .(2mks)
13. Using the trapezium rule with seven ordinates, estimate the area of the region bounded by the curve$y=-$x2+6x+1, when x=0, y=0 and x=6.(5mks)
14. Calculate:
15. The area of the region in (a) above by integration;(3mks)

20.The dimensions of a rectangular floor of a proposed building are such that; the length is greater than the width but at most twice the width the sum of the width and length is more than 8cm but less than 20cm. if x represents the width and y the length.

1. Write inequalities to represent the above information. (4mks)
2. Represent the inequalities above on the grid provided.(4mks)

Using the integral values of x and y, find the maximum possible area of the floor. (2mks)

1. Two brands of cooking fat, omega 1 and omega 2 are melt and mixed to produce a new brand, omega super. The density of omega 1 2.5gcm3 and that of omega 2 was 2.0gcm3 . calculate tha density of the mixture give that the 2 brands are mixed in the ratio 5:3 respectively by volume.(4mks)
2. A rectangular box open at top has a square base. The internal side of the base is x cm long and the total internal surface area of the box is 432cm2.
3. Express in terms of x:
4. The internal height h, of the box.(3mks)
5. The internal volume v, of the box.(1mk)
6. Find:
7. The value of x for which the volume v is maximum.(4mks)
8. The maximum internal volume of the box.(2mks)
9. The displacement, s meters, of a moving particle after t seconds is given by, $s=2t$3-5t2+4t+2

 Determine

1. The velocity of the particle when t=3 seconds(3mks)
2. The value of t when the particle is momentarily at rest.(3mks)
3. The displacement when the particle is momentarily at rest;(2mks)
4. The acceleration of the particle when t=3 seconds.(2mks)
5. Evaluate without using mathematical table or calculate $\frac{-12-(-4+5)}{-7-(2-(-5)}$. (4mks)