**DECEMBER HOLIDAY ASSIGMENT**

1. Evaluate: $\frac{-8 × -8 + 6}{-3 + \left(-8\right) ÷ 2 × 4}$
2. A number k is formed by writing all the prime numbers between 0 and 10 in ascending order. Another whole number p is formed by writing all the square numbers between 0 and 10 in ascending order. Find k-p.
3. Evaluate using squares and square root tables: (0.072)2 + $\sqrt{4451}$
4. Evaluate: $\frac{\frac{5}{6}of\left(4\frac{1}{3}-3\frac{5}{6}\right)}{\frac{5}{12}×\frac{3}{25}+1\frac{5}{9}÷2\frac{1}{3}}$
5. A camera which is marked at Ksh 2400 is sold to a consumer after allowing him a 10% discount. By so doing the trader still makes a profit of 20% on the cost of the camera. Determine the cost price of the camera
6. Convert 2.$\dot{4}\dot{5}$ into a fraction in its simplest form.
7. Show that 8260439 is exactly divisible by 11, using test of divisibility
8. 2000 cm3 of milk of density 0.9g/cm3 were added to 1200 cm3 of water of density 1g/cm3. Calculate the density of the mixture.
9. Solve the equation.$\frac{y+3}{3}+\frac{y}{2}=\frac{10y}{3}$ leaving answer as a fraction
10. 18 men take 15 days to dig 6 hectares of land. Find how many men are required to dig 8 hectares in 12 days.
11. Write in figures and give the place value and total value of the third digit in the number; three million, seventy nine thousand, seven hundred and fifty nine
12. Solve the simultaneous equations



1. Peter started his trip on Monday at 8.30 a.m. If the trip took him a total of 7 hours and 13 minutes, at what time did he complete the trip? Give your answer in 24 hour clock system
2. Four light signals are programmed at intervals of 40 seconds, 50 seconds, 60seconds and 75 seconds. What is the earliest time they will give out light signals simultaneously if the last time they did this was at 8.15a.m?
3. Tom and Joseph decided to start a business. Tom contributed sh 40000 and Joseph contributed sh 64000. The two men agreed that in any year 20% of the profit shall be divided equally between them and 30% of the remaining profit will be used to meet the cost for running the business the following year. They also agreed to share the rest of the profit in the ratio of their contributions. The profit made after first year was sh 86400.
4. How much money did they set aside towards the cost of running the business for the second year? (
5. How much did Joseph receive at the end of the first year?
6. Tom bought goats with his share of the profit. If each goat costs sh 1850, how many goats did he buy?
7. The volume of a closed cylinder of radius 7cm is 1540$cm^{3}$. Take π = $\frac{22}{7}$ .calculate its height and total surface area.
8. If a = 2, b = 3 and c = -5. Evaluate : 2ab – c
9. The interior angles of an octagon are 2xo, 1/2xo, (x+40)o, 110o, 135o, 160o, (2x+10)o and 185o. Find the value of x.
10. A number z is formed by writing all the prime numbers between 0 and 10 in an ascending order. Another number n is formed by writing all the square numbers between 0 and 10 in an ascending order.
11. Find m – n
12. Express ( m-n) as a product of its prime factors.
13. The GCD is 1620, 1800 and a third number is 180. The LCM of the three

 Numbers is 8100. Find the difference between greatest and smallest possible

 Third number.

1. Five years ago, a mother’s age was four times that of the daughter. In four

Years to come, she will be 2 ½ times the age of her daughter. Calculate the sum of their present ages.

1. . Using a pair of compasses and a ruler only construct a triangle ABC and

 Such that AB=4cm, BC=6cm and angle ABC=1350.

1. Four towns P, Q, R and S are such that town Q is 120km due East of town P town R is 160km due North of town Q town S is on a bearing of 330o from P and on a bearing of 300o from R Using a ruler and a pair of compasses only, show the relative positions of towns P, Q R and S. Take a scale of 1 cm rep 50km.
2. Patel bought some articles at sh3060 per dozen and sold them all making a profit of 20% on the cost price. When selling these articles he had allowed his customers a discount of 10% on the marked price of each article. Find the marked price of each article
3. Mr. Oralph withdrew some money from a bank. He spent $\frac{3}{8}$of the money to pay for Grace’s school fees and $\frac{2}{5}$to pay for Namaje’s fees. If he remained with Kshs. 12, 330, calculate the amount of money he paid for Namaje’s school fees.
4. Three bells ring at intervals of 15 minutes, 21 minutes and 30 minutes. The bells will next ring together at 12: 30 pm .Find the time the bells had last rang together.
5. The sum of interior angles of a regular polygon is 18000 . Find the size of each exterior angle.
6. Evaluate 5 ½ - 1 1/7 (1 1/5 + 9/10 ) + 1/3 of (2/3  ÷5/6)
7. A square brass plate of side 20mm has a mass of 1.05kg. The density of the brass is 8.4g/cm3. Calculate the length of the plate in centimeter.
8. Find the size of each interior angle of a regular pentagon.
9. A watch which loses a half-minute every hour was set to read the correct time at 0545h on Monday. Determine the time, in the 12 hour system, the watch will show on the following Friday at 1945h.
10. A number n is such that when its divided by 3,7,11 or 13, the remainder is always one. Find the number n.
11. The size of each Interior angle of a regular polygon is seven times the size of the exterior angle. Find the number of sides of the polygon.
12. Three years ago,Juma was three times old as Ali.In two years time, the sum of their ages will be 62.Determine their current ages