

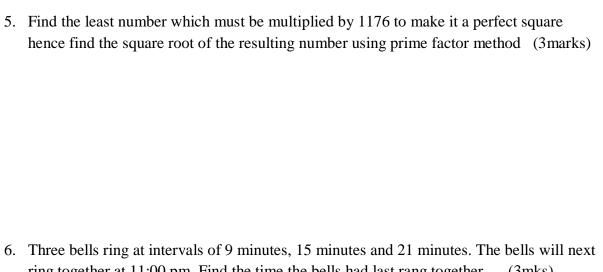
2. Evaluate without using a calculator leaving your answer in the form $\frac{a}{b}$ where a and b are integers

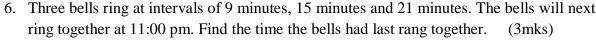
$$\frac{-12 \div (-3) \times 4 - (-15)}{-5 \times 6 \div 2 + (-5)}$$
 (3marks)

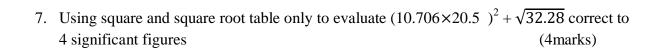
3. The ratio of boys to girls in a certain mixed secondary school is 3:4. If there are 70 more girls than boys, find the number of students in the school (3marks)

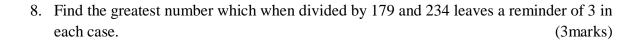
4. Given that; $x = \frac{1}{2}$ $y = \frac{1}{4}$ and $z = \frac{2}{3}$

Find the numeral values of $\frac{y-y^2z}{y+x^2}$ (3marks)









9. A number K is formed by writing all composite numbers less than 10 in ascending order. Another number h is formed by writing all the square numbers between 0 to 10 in ascending order. Evaluate (k-h) hence, find the least number which must be subtracted from (k-h) to make it divisible by 11 (4marks)

10. Evaluate without using tables or calculator $\frac{\frac{2}{5} \div \frac{4}{7} (1^{1/6} - 3^{1/9})}{\frac{1}{3} + \frac{5}{8} \times 2^{1/2}}$ (3marks)

11. A room whose measurements are 4.5m by 5.25m is to be carpeted by square tiles. Find the maximum number of square tiles to completely cover the room. (3marks)

12. Hassan invested Ksh. 144,000 in two companies X and Y Company X pays dividend of 45% while company Y pays a dividend of 42%. From his total investment he obtains a return of 43%. How much did he invest in each company? (3marks)

	13. Convert 3.2468 into a fraction in its simplest form	(3marks)
	14. The GCD of two numbers is 12 and their LCM is 240 if one of the numb prime factorization, find the other number	er is 60, using (3marks)
	15. A rectangular piece of ground measuring 780m by 494m is marked off exsquare plots.(a) Find the maximum area of a plot(b) The number of plots	actly into equal (2marks) (2marks)
1/4	16. Six men can dig 3 acres of land in 4 days. How many days will it take 8 methe rate to dig 12 acres of land	en working at a (3marks)

$17.$ In the year 2018 the school farm produced $10\ 8\ 7\ 2\ kg$ of maize in 2019production increased by 30% . In 2020 the production was a half that produced in both 2018 and 2019 . Given that one bag of dry maize is $90kg$. Calculate		
(a) The total number of bags produced during three seasons	(4marks)	
(b) The school uses five bags of maize for feeding program . How many days did t produced in 2019 lasted	the maize (3marks)	
(c) The farmers were paid at a rate of sh.75 per $3kg$ of maize produced . Calculate amount of money paid to the farmers in $3years$	the total (3marks)	

18. a school hired a number of buses and matatus to transport a group of students to Olkaria Geothermal station. The number of matatus was three times the number of buses. The hire charges were ksh 3 500 per matatu and ksh 6 500 per bus. The total cost of hiring the vehicles was ksh 17 000. Each matatu can carry thirteen students while a bus can carry five times as many.			
a) determine the number;			
i) of buses hired	(4mks)		
ii) of matatu hired	(1mk)		
b) calculate the number of students transported to Olkaria if each vehicle was full to capacity and no vehicle made a double trip. (3mk			
•			
c) each student contributed ksh 85 towards the cost of the trip and the school paid the remaining			
amount. How much money did the school pay?	(2mks)		

19. (a) Write in decimal notation

Five hundred and sixty nine and seventy eight millionths

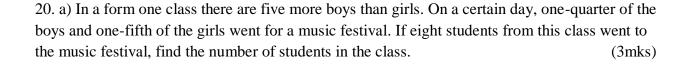
(1mark)

(b) Simplify the algebraic fraction below in its simplest form $\frac{1}{2}ab + \frac{a+b}{2ab^2+2ba^2}$ (4marks)

(c) (I)Express the $\frac{p^2-2pq}{p^2}$ - $\frac{5p^2-q-15p^3q}{2p^3}$ as a single fraction in its lowest form (2marks)

(ii) Simplify the algebraic expression

(3marks)



c) i) find the greatest common divisor of the terms
$$9x^3y^2$$
 and $4xy^4$ (1mk)

ii) hence factorize completely the expression
$$9x^3y^2$$
 and $4xy^4$ (1mk)

d) Evaluate
$$\sqrt{\frac{5\frac{3}{4} \times 1\frac{3}{4} + 8\frac{1}{3} \div \frac{5}{9}}{5\frac{1}{6} \times 1\frac{1}{5}}}$$
 (3mks)

40% of the profit to be shared in the ratio of the contribution 35% of the remaining profit to be shared equally and remaining profit to be retained for the remaining of the business. If the total profit for the 2020 was Ksh. 576, 00 calculate.		
(a) .Amount shared equally	(2marks)	
(b) Amount retained for the running of the business	(2marks)	
(c) Amount received by each partner	(6marks)	

21. Three business partners Shawn, Karl and Moraa contributed Ksh .360, 000, ksh480, 000 and ksh600,000 respectively to start a business . They agreed to share their profit as follows: