

BALLAST WATER MANAGEMENT PLAN (MANUAL)

To meet the requirements of Regulation B-1 of
INTERNATIONAL CONVENTION FOR THE CONTROL AND MANAGEMENT
OF SHIP'S BALLAST WATER AND SEDIMENTS, 2004
AND THE IMO RESOLUTION MEPC. 127(53)
GUIDELINES FOR BALLAST WATER MANAGEMENT AND DEVELOPMENT
OF BALLAST WATER MANAGEMENT PLANS (G4)

APPROVED

13/DEC/2012

NIPPON KAIH KYOKAI
MARINE & INDUSTRIAL
SERVICE DEPARTMENT

M.S. "PANSPIRIT"

IMO 9633018


General Manager
Marine & Industrial
Service Department


Surveyor to NK Imabari

[NK] it is confirmed that this document coincides
with the NK approved electronic document.

SERIAL NO. II-23

DWG. NO. C-1830

This plan should be kept available for inspection on request by a port state control officer or by a port state quarantine officer.

Ballast Study Manual

SJ Ball



Ballast Study Manual:

Ballast Study Manual Book Review: Unveiling the Magic of Language

In an electronic era where connections and knowledge reign supreme, the enchanting power of language has become more apparent than ever. Its power to stir emotions, provoke thought, and instigate transformation is actually remarkable. This extraordinary book, aptly titled "**Ballast Study Manual**," compiled by a highly acclaimed author, immerses readers in a captivating exploration of the significance of language and its profound effect on our existence. Throughout this critique, we shall delve to the book is central themes, evaluate its unique writing style, and assess its overall influence on its readership.

<https://kmsbrunchlive.gobrunch.com/files/browse/default.aspx/distribution%20transformer%20handbook%20fourth%20edition.pdf>

Table of Contents Ballast Study Manual

1. Understanding the eBook Ballast Study Manual
 - The Rise of Digital Reading Ballast Study Manual
 - Advantages of eBooks Over Traditional Books
2. Identifying Ballast Study Manual
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Ballast Study Manual
 - User-Friendly Interface
4. Exploring eBook Recommendations from Ballast Study Manual
 - Personalized Recommendations
 - Ballast Study Manual User Reviews and Ratings
 - Ballast Study Manual and Bestseller Lists

5. Accessing Ballast Study Manual Free and Paid eBooks
 - Ballast Study Manual Public Domain eBooks
 - Ballast Study Manual eBook Subscription Services
 - Ballast Study Manual Budget-Friendly Options
6. Navigating Ballast Study Manual eBook Formats
 - ePub, PDF, MOBI, and More
 - Ballast Study Manual Compatibility with Devices
 - Ballast Study Manual Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Ballast Study Manual
 - Highlighting and Note-Taking Ballast Study Manual
 - Interactive Elements Ballast Study Manual
8. Staying Engaged with Ballast Study Manual
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Ballast Study Manual
9. Balancing eBooks and Physical Books Ballast Study Manual
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Ballast Study Manual
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Ballast Study Manual
 - Setting Reading Goals Ballast Study Manual
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Ballast Study Manual
 - Fact-Checking eBook Content of Ballast Study Manual
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
- Integration of Multimedia Elements
 - Interactive and Gamified eBooks

Ballast Study Manual Introduction

In this digital age, the convenience of accessing information at our fingertips has become a necessity. Whether its research papers, eBooks, or user manuals, PDF files have become the preferred format for sharing and reading documents. However, the cost associated with purchasing PDF files can sometimes be a barrier for many individuals and organizations. Thankfully, there are numerous websites and platforms that allow users to download free PDF files legally. In this article, we will explore some of the best platforms to download free PDFs. One of the most popular platforms to download free PDF files is Project Gutenberg. This online library offers over 60,000 free eBooks that are in the public domain. From classic literature to historical documents, Project Gutenberg provides a wide range of PDF files that can be downloaded and enjoyed on various devices. The website is user-friendly and allows users to search for specific titles or browse through different categories. Another reliable platform for downloading Ballast Study Manual free PDF files is Open Library. With its vast collection of over 1 million eBooks, Open Library has something for every reader. The website offers a seamless experience by providing options to borrow or download PDF files. Users simply need to create a free account to access this treasure trove of knowledge. Open Library also allows users to contribute by uploading and sharing their own PDF files, making it a collaborative platform for book enthusiasts. For those interested in academic resources, there are websites dedicated to providing free PDFs of research papers and scientific articles. One such website is Academia.edu, which allows researchers and scholars to share their work with a global audience. Users can download PDF files of research papers, theses, and dissertations covering a wide range of subjects. Academia.edu also provides a platform for discussions and networking within the academic community. When it comes to downloading Ballast Study Manual free PDF files of magazines, brochures, and catalogs, Issuu is a popular choice. This digital publishing platform hosts a vast collection of publications from around the world. Users can search for specific titles or explore various categories and genres. Issuu offers a seamless reading experience with its user-friendly interface and allows users to download PDF files for offline reading. Apart from dedicated platforms, search engines also play a crucial role in finding free PDF files. Google, for instance, has an advanced search feature that allows users to filter results by file type. By specifying the file type as "PDF," users can find websites that offer free PDF downloads on a specific topic. While downloading Ballast Study Manual free PDF files is convenient, its important

to note that copyright laws must be respected. Always ensure that the PDF files you download are legally available for free. Many authors and publishers voluntarily provide free PDF versions of their work, but it's essential to be cautious and verify the authenticity of the source before downloading Ballast Study Manual. In conclusion, the internet offers numerous platforms and websites that allow users to download free PDF files legally. Whether it's classic literature, research papers, or magazines, there is something for everyone. The platforms mentioned in this article, such as Project Gutenberg, Open Library, Academia.edu, and Issuu, provide access to a vast collection of PDF files. However, users should always be cautious and verify the legality of the source before downloading Ballast Study Manual any PDF files. With these platforms, the world of PDF downloads is just a click away.

FAQs About Ballast Study Manual Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook's credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer web-based readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What's the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Ballast Study Manual is one of the best books in our library for free trial. We provide a copy of Ballast Study Manual in digital format, so the resources that you find are reliable. There are also many eBooks related to Ballast Study Manual. Where to download Ballast Study Manual online for free? Are you looking for Ballast Study Manual PDF? This is definitely going to save you time and cash in something you should think about. If you're trying to find them, search around for online. Without a doubt, there are numerous of these available, and many of them have the freedom. However, without a doubt, you receive whatever you purchase. An alternate way to get ideas is always to check another Ballast Study Manual. This method for seeing exactly what may be included and adopting these ideas to your book. This site will almost certainly help you save time and effort, money, and stress. If you are looking for free books, then you really should consider finding one to assist you try this. Several of Ballast Study Manual are for sale, some free while some are payable. If you aren't sure if the books you would like to download work with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to have free access to an online library.

for download books to your device. You can get free download on free trial for lots of books categories. Our library is the biggest of these that have literally hundreds of thousands of different products categories represented. You will also see that there are specific sites catered to different product types or categories, brands or niches related with Ballast Study Manual. So depending on what exactly you are searching, you will be able to choose e books to suit your own need. Need to access completely for Campbell Biology Seventh Edition book? Access Ebook without any digging. And by having access to our ebook online or by storing it on your computer, you have convenient answers with Ballast Study Manual To get started finding Ballast Study Manual, you are right to find our website which has a comprehensive collection of books online. Our library is the biggest of these that have literally hundreds of thousands of different products represented. You will also see that there are specific sites catered to different categories or niches related with Ballast Study Manual So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading Ballast Study Manual. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Ballast Study Manual, but end up in harmful downloads. Rather than reading a good book with a cup of coffee in the afternoon, instead they juggled with some harmful bugs inside their laptop. Ballast Study Manual is available in our book collection an online access to it is set as public so you can download it instantly. Our digital library spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one. Merely said, Ballast Study Manual is universally compatible with any devices to read.

Find Ballast Study Manual :

distribution transformer handbook fourth edition

12 3 form g

activate workbook excel macro samples

firming up your flabby faith

50-cumulative-exam-edgenuity-answers-algebra-1

ball solution manual

physical chemistry 9th edition instructors solution guide

ballad of barking water

festschrift prof dr herbert koziol zum siebzigsten geburtstag

04 impala engine hose diagram

spanish lesson 14 answer key

vespa gt200l manual

~~mercruiser alpha gen 2 manual~~
~~american odyssey answers~~
~~bmw 850i manual transmission for sale~~

Ballast Study Manual :

hägar der schreckliche alle mann an bord goldmann cartoon - Nov 26 2022

web hagar der schreckliche wer rastet der rostet goldmann copyright start learning with our free pdf ebook and gain new knowledge Über den autor und weitere mitwirkende dik browne geboren 1918 in new york ist der vielfach preisgekrönte schöpfer von

nr 6 hägar der schreckliche alle mann an bord picclick de - Feb 27 2023

web nr 6 hägar der schreckliche alle mann an bord dirk browne goldmann eur 2 00 zu verkaufen das buch befindet sich trotz seines alters in einem guten zustand leichte 184568767386

hägar der schreckliche alle mann an bord goldmann cartoon - Oct 26 2022

web may 23 2023 der schreckliche alle mann an bord goldmann cartoon browne dik isbn 9783442069798 kostenloser versand für alle bücher mit versand und verkauf duch issuu is a digital publishing platform that makes it simple to publish magazines catalogs newspapers books and more online easily share your publications and get them in front of issuu s

hÄgar der schreckliche alle mann an bord eur 5 92 picclick de - May 01 2023

web hÄgar der schreckliche alle mann an bord eur 5 92 zu verkaufen goldmann 1993 schief gelesen artikel stammt aus nichtraucherhaushalt dc4620 hägar der schreckliche 354958307020

hägar der schreckliche alle mann an bord goldmann cartoon - Sep 24 2022

web hägar der schreckliche alle mann an bord goldmann cartoon by dik browne als gläubige katholikin wäre da ein gottesvertrauen und der glaube daran alle wege sara ihren mann hagar in die in diese schreckliche situation kommen bei der sie sich dann ein freudenschrei an bord er lebt und in mir das seelenheil

hägar der schreckliche alle mann an bord goldmann cartoon - Feb 15 2022

web hägar der schreckliche alle mann an bord de may 17th 2020 hägar der schreckliche alle mann an bord browne dik isbn 9783442069798 kostenloser versand für alle bücher mit versand und verkauf duch 97 im angesicht meiner feinde hossa talk

hägar der schreckliche alle mann an bord goldmann cartoon - Apr 19 2022

web hägar der schreckliche alle mann an bord goldmann march 27th 2020 hägar der schreckliche alle mann an bord goldmann cartoon browne dik isbn 9783442069798 kostenloser versand für alle bücher mit versand und

hägar der schreckliche alle mann an bord goldmann cartoon - May 21 2022

web hägar der schreckliche alle mann an bord goldmann cartoon by dik browne online lesen auf dem weg gottes june 2nd 2020 wenn der mann den wir suchen innerhalb eines tages nichts von seinem anwärter hört vernichtet er alle hinweise die uns zu ihm führen könnten die kommissarin blickte

[hägar der schreckliche alle mann an bord goldmann cartoon](#) - Dec 28 2022

web hägar der schreckliche alle mann an bord goldmann cartoon by dik browne ahmed rami die macht der zionisten vom wesen des biblische geschichten für kinder band 8 bekehre dich

hägar der schreckliche alle mann an bord booklooker - Jul 03 2023

web hägar der schreckliche alle mann an bord nr 6 dik browne goldmann verlag 1991 taschenbuch isbn 3442069793 zustand deutliche gebrauchsspuren

hägar der schreckliche alle mann an bord goldmann cartoon - Mar 19 2022

web wenn einer eine reise tut alle gelesen als gläubige katholikin wäre da ein gottesvertrauen und der glaube daran alle wege sara ihren mann hagar in die in diese schreckliche situation kommen bei der sie sich hägar der schreckliche alle mann an bord goldmann cartoon browne dik isbn 9783442069798 kostenloser versand für alle bücher mit

[hägar der schreckliche alle mann an bord goldmann cartoon](#) - Jun 21 2022

web oct 31 2019 hägar der schreckliche alle mann an bord goldmann cartoon dies war eines meiner Lieblingsbücher als teenager als ich zum ersten mal perfect chemistry las war ich volljährig ich habe es oft gelesen manchmal brauche ich nur eine dosis von girly liebesromane dies ist eines der besten bücher die ich gelesen habe

[hägar der schreckliche alle mann an bord goldmann cartoon](#) - Aug 24 2022

web hägar der schreckliche alle mann an bord de die sprache des herrn jesus christus kann man lernen und hägar der schreckliche alle mann an bord goldmann t shirts viking redbubble cross2life us airways flug nr 1549 pfuschen wir mit abtreibungen und suizid gott ins watson hägar der schreckliche gesamtausgabe 8 splashics pdf informiert

hägar der schreckliche alle mann an bord goldmann cartoon - Mar 31 2023

web barmherzige gott archiv hägar der schreckliche alle mann an bord de revue 2020 07 by revue de magazin fir lëtzebuerg issuu hägar der schreckliche gesamtausgabe 8 splashics dik browne librarything alle werke nach autor abc de bibel r5 der braunschweiger dom das wort zum alltag hägar der schreckliche alle mann an bord goldmann die

hägar der schreckliche alle mann an bord goldmann - Sep 05 2023

web hägar der schreckliche alle mann an bord goldmann kostenlos online lesen download nitroflare 61 mb download rapidgator 61 mb download ddownload 61 mb downmeldung bitte nur wenn alle hoster offline sind reupload erfolgt auf nitroflare com vorheriger comic die meister der inquisition 016 talh scanlation

hägar der schreckliche alle mann an bord goldmann cartoon - Jul 23 2022

web alle werke nach autor abc de hägar der schreckliche drum prüfe wer sich ewig bindet online lesen auf dem weg gottes galater 4 entlarvt die judaisierer hägar der schreckliche alle mann an bord de wbh online de der grausame und der barmherzige gott archiv prophetengeschichten islam aktuell full text of duden das große wörterbuch der [hägar der schreckliche alle mann an bord goldmann cartoon](#) - Aug 04 2023

web aug 12 2020 hägar der schreckliche alle mann an bord goldmann cartoon ich habe es geliebt für seine verrücktheit seinen idealismus seine verzerrten charaktere die sich nur in newsrooms zu manifestieren scheinen und seine einfachheit es ist eine schnelle lektüre aber es hält sehr viel in kaum allen seiten

hägar der schreckliche alle mann an bord goldmann cartoon - Jun 02 2023

web you may well purchase this ebook i bestow downloads as a pdf kindle word txt ppt rar and zip attending are several ebooks in the category that will elevate our experience one amongst them is the find able hägar der schreckliche alle mann an bord goldmann cartoon by this book gives the reader new knowledge and experience this

hägar der schreckliche alle mann an bord goldmann cartoon - Oct 06 2023

web hägar der schreckliche alle mann an bord goldmann cartoon browne dik isbn 9783442069798 kostenloser versand für alle bücher mit versand und verkauf duch amazon

comics taschenbuch hägar der schreckliche alle mann an bord ebay - Jan 29 2023

web entdecken sie comics taschenbuch hägar der schreckliche alle mann an bord goldmann in der großen auswahl bei ebay kostenlose lieferung für viele artikel

understanding cycle time to improve business processes - Jan 18 2022

fast cycle time how to align purpose strategy and structure - Apr 01 2023

web meyer argues that fast cycle time is achieved not by working faster but by aligning the organization s purpose strategy and structure he demonstrates how the product

fast cycle time how to align purpose strategy and structure for - Sep 06 2023

web jun 1 1994 fast cycle time how to align purpose strategy and structure for speed by christopher meyer ph d new york the free press 1993 290 xiii pages 29 95

fast cycle time how to align purpose strategy and - May 22 2022

web he describes how to assemble multifunctional teams into integrated production systems by empowering workers with an eight step process and tool kit to reduce non value added

fast cycle time how to align purpose strategy and structure - Aug 25 2022

web professional background christopher meyer ph d is the chairman of the strategic alignment group inc and an academic

affiliate of prtm dr meyer is internationally

fast cycle time how to align purpose strategy and st - Jan 30 2023

web here for the first time christopher meyer an internationally recognized expert in cycle time reduction presents a step by step blueprint for transforming traditional companies

fast cycle time how to align purpose strategy and structure - Oct 27 2022

web buy fast cycle time how to align purpose strategy and structure for speed by meyer christopher isbn 9781416576242 from amazon s book store everyday low prices

fast cycle time how to align purpose strategy and structure - Oct 07 2023

web may 11 2010 here for the first time christopher meyer an internationally recognized expert in cycle time reduction presents a step by step blueprint for transforming traditional companies into fast

fast cycle time how to align purpose strategy and structure - Jun 22 2022

web fast cycle time how to align purpose strategy and structure for speed meyer christopher amazon in books

fast cycle time how to align purpose strategy and structure - Apr 20 2022

web aug 6 2023 page 499 fast cycle time is a strategy of designing a manufacturing organization to eliminate bottlenecks and delays in production not only does it speed up

fast cycle time how to align purpose strategy and abebooks - Mar 20 2022

web jul 12 2018 the reason cycle time improves business processes from a business perspective being aware of the cycle time is important because it applies to a number of

fast cycle time how to align purpose strategy and structure for - May 02 2023

web jun 1 1994 fast cycle time how to align purpose strategy and structure for speed by christopher meyer ph d new york the free press 1993 290 xiii pages 29 95

fast cycle time book by christopher meyer simon - Nov 27 2022

web fast cycle time how to align purpose strategy and structure for speed christopher meyer amazon com tr

fast cycle time is a strategy of designing a manufacturing - Feb 16 2022

web may 11 2010 fast cycle time how to align purpose strategy and structure for ebook meyer christopher amazon co uk kindle store

six steps to becoming a fast cycle time competitor - Dec 29 2022

web strategy we define fct as the ongoing ability to identify satisfy and be paid for meeting customer needs faster than anyone else there are several key words in this definition

fast cycle time how to align purpose strategy and structure - Jul 04 2023

web competitors meyer argues that fast cycle time is achieved not by working faster but by aligning the organization's purpose strategy and structure he demonstrates how the

about christopher meyer fast cycle - Jul 24 2022

web synopsis about this title learning laboratory in which the four continuous elements design fabricate assemble and test are analyzed with the intent to improve strategy in the

fast cycle time how to align purpose strategy and structure - Sep 25 2022

web sep 7 2007 today tens of thousands of companies are struggling to become time based competitors inspired by such corporations as motorola general electric

fast cycle time how to align purpose strategy and structure - Jun 03 2023

web here for the first time christopher meyer an internationally recognized expert in cycle time reduction presents a step by step blueprint for transforming traditional companies

fast cycle time how to align purpose strategy and structure - Aug 05 2023

web here for the first time christopher meyer an internationally recognized expert in cycle time reduction presents a step by step blueprint for transforming traditional companies

fast cycle time how to align purpose strategy and structure - Dec 17 2021

fast cycle time how to align purpose strategy proquest - Feb 28 2023

web my research and language selection sign into my research create my research account english help and support support center find answers to questions about products

linear programming quizzes questions answers proprofs - Jun 23 2022

web discover flashcards test exam answers and assignments to help you learn more about linear programming and other subjects don't miss the chance to use them for more

linear programming definition formula examples - Jul 05 2023

web linear programming uses linear algebraic relationships to represent a firm's decisions given a business objective and resource constraints steps in application 1 identify

linear programming definition formula problem examples - Apr 02 2023

web sep 8 2023 step 2 create linear equation using inequality $200x + 100y \leq 5000$ or $2x + y \leq 50$ $25x + 50y \leq 1000$ or $x + 2y \leq 40$ also $x \geq 0$ and $y \geq 0$ step 3 create a graph

linear programming questions and answers - Nov 28 2022

web sep 2 2023 linear programming hardest quiz trivia if the primal is a minimization problem its dual will be a

maximization problem columns of the constraint coefficients in
linear programming practice questions solutions - Mar 01 2023

web all the concepts of linear programming are important for students from the examination point of view students can refer to all the concepts of class 12 provided at byjus for

exam style questions on linear programming - Sep 07 2023

web dec 10 2020 1 what is linear programming 2 basics of linear programming 3 formulating linear programming problems 4 steps of formulating linear

a linear programming computer package is needed epsilon - Oct 16 2021

linear programming exercises - Oct 08 2023

web to solve a linear programming problem we first need to know the fundamental theorem of linear programming given that an optimal solution to a linear programming

linear programming questions and answers - Mar 21 2022

web 4 solve the linear programming problem we can use a linear programming solver such as lingo or glpk to solve the problem the optimal solution to the linear

linear programming f5 performance management acca global - Apr 21 2022

web free download in pdf linear programming multiple choice questions and answers for competitive exams these short objective type questions with answers are very

top 25 linear programming interview questions and answers - Dec 18 2021

melbourne cup 2023 what time does the race start how to - Sep 14 2021

linear programming problems and solutions superprof - Jun 04 2023

web oct 31 2023 explore the latest questions and answers in linear programming and find linear programming experts

linear programming problems linear programming study - Jul 25 2022

web oct 19 2023 explanation given linear programming problem lpp is maximize $z = 3x + 5y$ subject to $x + 5y \leq 10$ $2x + 2y \leq 5$ $x \geq 0$ $y \geq 0$ now $x = 5y - 10$ $x = 10 - 5y$ $1 - 2x$

linear programming flashcards test questions and answers - Jan 19 2022

section 2 1 solving linear programming problems university - Aug 06 2023

web linear programming also abbreviated as lp is a simple method that is used to depict complicated real world relationships by using a linear function the elements in the

linear programming model formulation and solution - Jan 31 2023

web free practice test instructions choose your answer to the question and click continue to see how you did then click next question to answer the next question when you

linear programming multiple choice questions and answers - Nov 16 2021

important questions class 12 maths chapter 12 linear - Sep 26 2022

web decision making is an important aspect of the performance management syllabus and questions on this topic will be common the range of possible questions is

linear programming mcq free pdf objective question - Feb 17 2022

web nov 5 2023 vauban s stablemate absurde who qualified for the cup by winning the ebor handicap 2 816m at york in august is also high on the list of chances

linear programming practice test questions chapter exam - Aug 26 2022

web in linear programming there is a need to consider the output as the input to a certain algorithm or operation linear programming questions and answers pdf that are

linear programming problems solutions applications - May 03 2023

web linear programming questions and answers questions q 1 define and discuss the linear programming technique including assumptions of linear programming and

linear programming problem questions and answers - May 23 2022

web aug 31 2023 top 25 linear programming interview questions and answers prepare for your next interview with our comprehensive guide on linear programming this

graphical solution of linear programming problems - Oct 28 2022

web some examples of linear programming problem questions include whether or not a person should use a particular software application in their business or if a person

196 questions with answers in linear programming - Dec 30 2022

web what is lpp lpp is subject to constraints of linear variables which are non negative and satisfy the sets of inequalities objective functions $z = ax + by$ where a and b are to be