

8.3 Piecewise Functions

8.3 Practice

Use the piecewise function to evaluate the following.

1.

$$f(x) = \begin{cases} -2x^2 - 1, & x \leq 2 \\ 4 \\ \frac{4}{5}x - 4, & x > 2 \end{cases}$$

$$a. f(0) = -2(0)^2 - 1$$

$$= 0 - 1$$

$$\boxed{f(0) = -1}$$

$$b. f(5) = \frac{4}{5}(5) - 4$$

$$= 4 - 4$$

$$\boxed{f(5) = 0}$$

$$c. f(2) = -2(2)^2 - 1$$

$$= -2(4) - 1$$

$$= -8 - 1$$

$$\boxed{f(2) = -9}$$

$$d. f(-3) = -2(-3)^2 - 1$$

$$= -2(9) - 1$$

$$= -18 - 1$$

$$\boxed{f(-3) = -19}$$

2.

$$f(x) = \begin{cases} x^3 - 7x, & x \leq -3 \\ 8, & -3 < x \leq 3 \\ 77, & x > 3 \end{cases}$$

$$a. f(-5) = (-5)^3 - 7(-5)$$

$$= -125 + 35$$

$$\boxed{f(-5) = -90}$$

$$\boxed{f(11) = 77}$$

$$c. f(0) = 8$$

$$d. f(3) = 8$$

These are super easy when the functions are constant! No work!

Graph the following piecewise functions.

3.

$$f(x) = \begin{cases} 2x + 3, & x \leq 0 \\ -\frac{1}{2}x - 1, & x > 0 \end{cases}$$



4.

$$f(x) = \begin{cases} -\frac{1}{3}x + 5, & x > 3 \\ 2, & x \leq 3 \end{cases}$$



5.

$$f(x) = \begin{cases} 4 - x, & x < 2 \\ 2x - 6, & x \geq 2 \end{cases}$$



6.

$$f(x) = \begin{cases} -3, & x \leq 0 \\ -1, & 0 < x \leq 2 \\ 1, & 2 < x \leq 4 \\ 3, & x \geq 4 \end{cases}$$



Pondering Polynomials Algebra 1 Unit 8 Lesson

ML Morrison



Pondering Polynomials Algebra 1 Unit 8 Lesson :

Thank you for reading **Pondering Polynomials Algebra 1 Unit 8 Lesson** . As you may know, people have look hundreds times for their favorite readings like this Pondering Polynomials Algebra 1 Unit 8 Lesson , but end up in malicious downloads. Rather than enjoying a good book with a cup of tea in the afternoon, instead they cope with some malicious virus inside their laptop.

Pondering Polynomials Algebra 1 Unit 8 Lesson is available in our digital library an online access to it is set as public so you can download it instantly.

Our books collection spans in multiple countries, allowing you to get the most less latency time to download any of our books like this one.

Kindly say, the Pondering Polynomials Algebra 1 Unit 8 Lesson is universally compatible with any devices to read

https://crm.avenza.com/public/virtual-library/HomePages/Pathologic_Basis_Of_Disease_9th_Edition.pdf

Table of Contents Pondering Polynomials Algebra 1 Unit 8 Lesson

1. Understanding the eBook Pondering Polynomials Algebra 1 Unit 8 Lesson
 - The Rise of Digital Reading Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Advantages of eBooks Over Traditional Books
2. Identifying Pondering Polynomials Algebra 1 Unit 8 Lesson
 - 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 Pondering Polynomials Algebra 1 Unit 8 Lesson
 - User-Friendly Interface
4. Exploring eBook Recommendations from Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Personalized Recommendations

- Pondering Polynomials Algebra 1 Unit 8 Lesson User Reviews and Ratings
- Pondering Polynomials Algebra 1 Unit 8 Lesson and Bestseller Lists
- 5. Accessing Pondering Polynomials Algebra 1 Unit 8 Lesson Free and Paid eBooks
 - Pondering Polynomials Algebra 1 Unit 8 Lesson Public Domain eBooks
 - Pondering Polynomials Algebra 1 Unit 8 Lesson eBook Subscription Services
 - Pondering Polynomials Algebra 1 Unit 8 Lesson Budget-Friendly Options
- 6. Navigating Pondering Polynomials Algebra 1 Unit 8 Lesson eBook Formats
 - ePub, PDF, MOBI, and More
 - Pondering Polynomials Algebra 1 Unit 8 Lesson Compatibility with Devices
 - Pondering Polynomials Algebra 1 Unit 8 Lesson Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Highlighting and Note-Taking Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Interactive Elements Pondering Polynomials Algebra 1 Unit 8 Lesson
- 8. Staying Engaged with Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Pondering Polynomials Algebra 1 Unit 8 Lesson
- 9. Balancing eBooks and Physical Books Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Pondering Polynomials Algebra 1 Unit 8 Lesson
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Setting Reading Goals Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Pondering Polynomials Algebra 1 Unit 8 Lesson
 - Fact-Checking eBook Content of Pondering Polynomials Algebra 1 Unit 8 Lesson

- 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

Pondering Polynomials Algebra 1 Unit 8 Lesson Introduction

In the digital age, access to information has become easier than ever before. The ability to download Pondering Polynomials Algebra 1 Unit 8 Lesson has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite book, or a professional seeking research papers, the option to download Pondering Polynomials Algebra 1 Unit 8 Lesson has opened up a world of possibilities. Downloading Pondering Polynomials Algebra 1 Unit 8 Lesson provides numerous advantages over physical copies of books and documents. Firstly, it is incredibly convenient. Gone are the days of carrying around heavy textbooks or bulky folders filled with papers. With the click of a button, you can gain immediate access to valuable resources on any device. This convenience allows for efficient studying, researching, and reading on the go. Moreover, the cost-effective nature of downloading Pondering Polynomials Algebra 1 Unit 8 Lesson has democratized knowledge. Traditional books and academic journals can be expensive, making it difficult for individuals with limited financial resources to access information. By offering free PDF downloads, publishers and authors are enabling a wider audience to benefit from their work. This inclusivity promotes equal opportunities for learning and personal growth. There are numerous websites and platforms where individuals can download Pondering Polynomials Algebra 1 Unit 8 Lesson . These websites range from academic databases offering research papers and journals to online libraries with an expansive collection of books from various genres. Many authors and publishers also upload their work to specific websites, granting readers access to their content without any charge. These platforms not only provide access to existing literature but also serve as an excellent platform for undiscovered authors to share their work with the world. However, it is essential to be cautious while downloading Pondering Polynomials Algebra 1 Unit 8 Lesson . Some websites may offer pirated or illegally obtained copies of copyrighted material. Engaging in such activities not only violates copyright laws but also undermines the efforts of authors, publishers, and researchers. To ensure ethical downloading, it is advisable to utilize reputable websites that prioritize the legal distribution of content. When downloading Pondering Polynomials Algebra 1 Unit 8 Lesson , users should also consider the potential security risks associated with online platforms. Malicious actors

may exploit vulnerabilities in unprotected websites to distribute malware or steal personal information. To protect themselves, individuals should ensure their devices have reliable antivirus software installed and validate the legitimacy of the websites they are downloading from. In conclusion, the ability to download Pondering Polynomials Algebra 1 Unit 8 Lesson has transformed the way we access information. With the convenience, cost-effectiveness, and accessibility it offers, free PDF downloads have become a popular choice for students, researchers, and book lovers worldwide. However, it is crucial to engage in ethical downloading practices and prioritize personal security when utilizing online platforms. By doing so, individuals can make the most of the vast array of free PDF resources available and embark on a journey of continuous learning and intellectual growth.

FAQs About Pondering Polynomials Algebra 1 Unit 8 Lesson 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 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 the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Pondering Polynomials Algebra 1 Unit 8 Lesson is one of the best book in our library for free trial. We provide copy of Pondering Polynomials Algebra 1 Unit 8 Lesson in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Pondering Polynomials Algebra 1 Unit 8 Lesson . Where to download Pondering Polynomials Algebra 1 Unit 8 Lesson online for free? Are you looking for Pondering Polynomials Algebra 1 Unit 8 Lesson PDF? This is definitely going to save you time and cash in something you should think about.

Find Pondering Polynomials Algebra 1 Unit 8 Lesson :

pathologic basis of disease 9th edition
pat grade 11 memorandum 2014

patch pour ecircetre au top de sa forme

patterson and hennessy computer organization and design 4th edition solutions

pats philly cheesesteak recipe

pat for economics grade 10

pavlova recipe delia

past sats paper ksmoving house analysis grid

patterns for college writing 12th edition

patches for motorcycle vest

past hsc trial papers legal 20cssa

~~past papers grade 1english paper 2~~

paula deeb's pumpkin cake recipe

pb4 60 booster pump wiring instructions

password reset dvr h264

Pondering Polynomials Algebra 1 Unit 8 Lesson :

les petites crapules clarisse caprices lady cocotte - Feb 18 2022

web accueil très bon état les petites crapules clarisse caprices page précédente 1 en stock

tony garth clarisse caprices illustrated books librairie - Dec 31 2022

web find a store store hours in store events by region corporate and institutional services

les petites crapules clarisse caprices pdf amoa arthouse - Jul 26 2022

web 2 les petites crapules clarisse caprices 2022 02 17 les petites crapules clarisse caprices downloaded from amoa arthouse org by guest riya preston the proposal penguin a magnificent moving epic with a haunting secret love story at its heart which will sweep you from present day manhattan to london in 1958 the year of the last

les petites crapules clarisse caprices - Aug 27 2022

web vous recherchez des livres les petites crapules clarisse caprices d occasion à tout petit prix vous trouverez de très belles offres sur iqoqo collection

clarisse caprices stage gapinc - Mar 22 2022

web clarisse caprices 1 clarisse caprices deux femmes contre un homme chambers s repository of instructive and amusing tracts pacific rural press le pinceau du roi new peterson magazine caprice un caprice demorests monthly magazine tales no quarter the pacific rural press and california farmer clarisse caprices le miroir de l enfance

tony garth clarisse caprices albums illustrés livres - Mar 02 2023

web clarisse caprices date de parution février 2000 Éditeur mango collection petits monstres sujet enfants 2 a 7 ans isbn 9782740409602 2740409605

clarisse wikipedia - May 24 2022

web clarisse may refer to people and characters clarisse given name eddy clarisse born 1972 a retired badminton player from mauritius clarisse percy jackson a female character in the percy jackson the olympians book clarisse midroy 1820 1870 french actress known simply as clarisse princess clarisse a character in the castle of

les petites crapules clarisse caprices - Apr 03 2023

web 4 les petites crapules clarisse caprices 2022 02 26 indispensable french language companion fully updated to reflect recent changes in technology and clothing the french english bilingual visual dictionary also features an easy to use audio app enabling you to hear terms spoken out loud learn and retain all the key phrases you need to know

amazon fr clarisse caprice garth tony livres - Sep 08 2023

web noté 5 retrouvez clarisse caprice et des millions de livres en stock sur amazon fr achetez neuf ou d occasion

clarisse caprice facebook - Apr 22 2022

web clarisse caprice 214 likes 1 talking about this salut voila ma page officielle au nom de clarisse caprice vous pouvez toujours aller visiter mon an clarisse caprice

les petites crapules clarisse caprices rallye lecture en ligne - Aug 07 2023

web les petites crapules clarisse caprices grath tony humour album enfance les petites crapules 0 5 0 vote 4 1 5 41 votes question 1

clarisse caprice tony garth 2740409605 cultura - Sep 27 2022

web clarisse caprice par tony garth aux éditions mango

peluche les petites crapules clarisse caprices 20 cm - Jun 24 2022

web peluche les petites crapules clarisse caprices 20 cm pas cher retrouvez tous les produits disponibles à l achat sur notre site en utilisant rakuten vous acceptez l utilisation des cookies permettant de vous proposer des contenus personnalisés et

clarisse caprices haut chablais réseau des bibliothèques - Jul 06 2023

web clarisse caprices tony garth affiner le résultat de recherche avec le type de document livre réserver mes préférés

clarisse caprices enfant jeunesse rakuten - Nov 29 2022

web mar 4 2010 clarisse caprices pas cher retrouvez tous les produits disponibles à l achat dans notre catégorie enfant jeunesse

clarisse caprice broché tony garth achat livre fnac - Oct 29 2022

web clarisse caprice tony garth mango des milliers de livres avec la livraison chez vous en 1 jour ou en magasin avec 5 de réduction

[les petites crapules wikipédia](#) - Oct 09 2023

web clarisse caprice tantrum tabitha en vo c est une petite fille hystérique et capricieuse qui n est jamais contente sa grand mère conseille sa mère de ne pas faire ce que clarisse déteste habituellement prendre le bus prendre des légumes prendre un bain ainsi elle ne fait plus de crises

[les petites crapules clarisse caprices pdf](#) - May 04 2023

web les petites crapules clarisse caprices 3 3 has to hand over a precious toy or when it means agreeing to a hideous haircut or even giving up her bed at a sleepover but when noni finally finds her voice the consequences are not what she or the reader expects heather hartt sussman s story

[les petites crapules clarisse caprices broché fnac](#) - Jun 05 2023

web clarisse caprices des milliers de livres avec la livraison chez vous en 1 jour ou en magasin avec 5 de réduction clarisse caprices broché achat livre fnac

[les petites crapules clarisse caprices rakuten](#) - Feb 01 2023

web sep 25 2011 les petites crapules clarisse caprices pas cher retrouvez tous les produits disponibles à l achat dans notre catégorie enfant jeunesse

[deutschland jenseits des aquators die ns kolonial copy](#) - Jan 27 2022

web apr 23 2023 examines germany s military and administrative personnel in the colonies

[deutschland jenseits des aquators die ns kolonial uniport edu](#) - Jan 07 2023

web jun 30 2023 deutschland jenseits des aquators die ns kolonial 1 8 downloaded

[deutschland jenseits des aquators die ns kolonial uniport edu](#) - Sep 03 2022

web aug 8 2023 jenseits des aquators die ns kolonial but end up in harmful downloads

die ns kolonialplanungen für afrika deutschlandfunk - Nov 05 2022

web oct 20 2008 karsten linne deutschland jenseits des Äquators die ns

[deutschland jenseits des äquators die ns kolonialplanungen](#) - Oct 24 2021

web jenseits des äquators karsten linne deutschland jenseits des äquators die ns

[deutschland jenseits des aquators die ns kolonial pdf](#) - Sep 22 2021

web may 29 2023 deutschland jenseits des aquators die ns kolonial 2 9 downloaded

[deutschland jenseits des aquators die ns kolonial pdf](#) - Mar 29 2022

web jun 8 2023 deutschland jenseits des aquators die ns kolonial recognizing the

deutschland jenseits des äquators die ns kolonial uniport edu - Nov 24 2021

web jun 8 2023 deutschland jenseits des äquators die ns kolonial 2 9 downloaded

deutschland jenseits des äquators die ns kolonial - Feb 08 2023

web deutschland jenseits des äquators die ns kolonial deutschland jenseits des

deutschland jenseits des äquators die ns kolonialplanungen - Apr 29 2022

web without difficulty as acquire guide deutschland jenseits des äquators die ns

deutscher kolonialismus in der zeit des - Jun 12 2023

das parteiprogramm der nsdap forderte 1920 kolonien für die produktion von nahrungsmittelreserven und zur besiedlung durch den bevölkerungsüberschuss in deutschland bereits am 10 dezember hatte adolf hitler in einer rede vom unersetzlichen verlust der kolonien gesprochen in seiner programmschrift mein kampf erteilte er 1926 dem ziel einer rückgewinn

deutschland jenseits des äquators die ns kolonial pdf - Aug 02 2022

web may 22 2023 decision making and conduct in nazi germany and into responses to the

die schatten des deutschen kolonialismus dw 19 06 2020 - Mar 09 2023

web jun 19 2020 christoph hasselbach 19 06 2020 der streit um die kolonialgeschichte

das völkerrechtliche ende des deutschen kolonialreichs - Feb 25 2022

web das ende des deutschen kolonialreichs bedeutete zunächst kein ende der

pdf deutschland jenseits des äquators die ns kolonial - May 11 2023

web das ende des deutschen kolonialreichs mobilisierte in der weimarer republik und der

deutschland jenseits des äquators die ns kolonialplanungen - Apr 10 2023

web deutschland jenseits des äquators die ns fachschule für den außenhandels und

deutschland jenseits des äquators die ns kolonialplanungen - Oct 04 2022

web kolonialstudium wiktionary may 28th 2020 karsten linne deutschland jenseits des

deutschland jenseits des äquators die ns kolonial full pdf - Jul 01 2022

web deutschland jenseits des äquators die ns kolonial 1 deutschland jenseits des

deutschland jenseits des Äquators die ns amazon de - Aug 14 2023

web mit deutschland jenseits des Äquators die ns kolonialplanung für afrika ist im

deutschland jenseits des Äquators lernen aus der geschichte - Jul 13 2023

web may 10 2010 karsten linne deutschland jenseits des Äquators die ns

deutschland jenseits des äquators die ns kolonial copy - Dec 26 2021

web decision making and conduct in nazi germany and into responses to the genocide by

deutschland jenseits des aquators die ns kolonial copy - Dec 06 2022

web apr 22 2023 deutschland jenseits des aquators die ns kolonial 1 8 downloaded

deutschland jenseits des aquators die ns kolonial pdf copy - May 31 2022

web lewis h gann 1977 06 01 the first book in a planned series dealing with the social

physical chemistry for the chemical sciences by raymond chang - Apr 16 2022

web nov 6 2016 free download physical chemistry for the chemical sciences written by raymond chang and jr thoman john w in pdf from following download links kindly follow the instructions to unlock the download link s

download physical chemistry for the biosciences by chang raymond - Aug 01 2023

web physical chemistry for the biosciences author chang raymond category chemistry physical chemistry language english isbn 9781891389337 year 2005 pages

physical chemistry raymond chang solutions manual - Oct 23 2022

web physical chemistry raymond chang solutions manual 33across 33across deanna s 13 nov main menu v w x viccam viceroy lathe weihong wincnc xyz machine tools paul s 20 nov support see prices after having used other manual sites this is the best one hands down have been using it since i found it and it is very easy to use

problems and solutions to accompany chang s physical chemistry - Nov 23 2022

web this solutions manual to accompany raymond chang s physical chemistry for the chemical and biological sciences restates each of the 1020 innovative chapter ending problems in the text followed by a detailed solution print book isbn 978 1 raymond chang solutions chegg com - Jun 18 2022

web below are chegg supported textbooks by raymond chang select a textbook to see worked out solutions

physical chemistry for the chemical sciences by raymond chang - Oct 03 2023

web jan 29 2018 physical chemistry for the chemical science raymond chang jr thoman john if you like if you like this book please visit this page you will find a collection of pharmaceutical science and academic books i hope this collection will

problems and solutions manual to accompany chang s physical chemistry - Jul 20 2022

web the digital and etextbook isbns for problems and solutions manual to accompany chang s physical chemistry for the biosciences by raymond chang are 9781891389399 9781938787843 1938787846 and the print isbns are 9781891389399 1891389394 save up to 80 versus print by going digital with vitalsource

raymond chang physical chemistry solution manual pdf - Aug 21 2022

web student solutions manual for chang chemistry with advanced topics problems and solutions to accompany physical chemistry for the chemical sciences chemistry 1977 january june student solutions manual to accompany chemistry chang

chemistry ap edition student solutions manual for chang s chemistry concise physical

chemistry raymond chang solution manual mcf strathmore - May 30 2023

web problems and solutions to accompany raymond chang physical chemistry for the biosciences mcgraw hill education
chang s best selling general chemistry textbook takes a traditional approach and is often considered a student and teacher favorite

raymond chang chemist wikipedia - Apr 28 2023

web raymond chang chemist raymond chang march 6 1939 april 10 2017 1 was an emeritus professor at williams college in the department of chemistry and a textbook author his most popular textbook was titled chemistry which was published up to the thirteenth edition 2 he also published a few children s books

the solutions of chemistry by raymond chang 12th 11th also ok - Dec 25 2022

web 1 a physical change the helium isn t changed in any way by leaking out of the balloon b chemical change in the battery c physical change the orange juice concentrate can be regenerated by evaporation of the water d chemical change photosynthesis changes water carbon dioxide etc into complex organic matter e physical change

raymond chang physical chemistry solutions manual pdf - Sep 02 2023

web download our raymond chang physical chemistry solutions manual ebooks for free and learn more about raymond chang physical chemistry solutions manual these books contain exercises and tutorials to improve your practical skills at all levels

problems and solutions to accompany chang s physical chemistry - Jan 26 2023

web by providing a strong pedagogical framework for self study this solutions manual will give students fresh insights into concepts and principles that may elude them in the lecture hall it features detailed solutions to each of the even numbered problems from raymond chang s physical chemistry for the biosciences

problems and solutions to accompany raymond chang physical chemistry - May 18 2022

web perhaps nothing can better help students understand difficult concepts than working through and solving problems by providing a strong pedagogical framework for self study this solutions

solutions manual chemistry by raymond chang 10th edition - Feb 12 2022

web book details chang s best selling general chemistry textbook takes a traditional approach and is often considered a student and teacher favorite the book features a straightforward clear writing style and proven problem solving strategies

physical chemistry for the chemical sciences - Mar 28 2023

web summary following in the wake of chang s two other best selling physical chemistry textbooks physical chemistry for the chemical and biological sciences and physical chemistry for the biosciences this new title introduces laser spectroscopist jay thoman williams college as co author

raymond chang physical chemistry solution manual download - Jun 30 2023

web raymond chang physical chemistry solution manual download raymond chang physical chemistry solution manual download 4 downloaded from learn copyblogger com on 2021 12 19 by guest small angle neutron scattering polymer chemistry third edition offers a logical presentation of topics that can be scaled to

for students university science books - Feb 24 2023

web this solutions manual to accompany raymond chang s physical chemistry for the chemical and biological sciences restates each of the 1020 innovative chapter ending problems in the text followed by a detailed solution problems and solutions to accompany mcquarrie and simon s physical chemistry heather cox

student solutions manual for chemistry google books - Mar 16 2022

web feb 2 2016 the student solutions manual is written by raymond chang and ken goldsby this supplement contains detailed solutions and explanations for even numbered problems in the main text the

raymond chang university science books - Sep 21 2022

web physical chemistry for the biosciences physical chemistry for the chemical and biological sciences physical chemistry for the chemical sciences problems and solutions to accompany chang and thoman s physical chemistry for the chemical sciences problems and solutions to accompany chang s physical chemistry for the