

HALF-LIFE PROBLEMS

Name _____	Block _____
------------	-------------

1. An isotope of cesium (cesium-137) has a half-life of 30 years. If 1.0 g of cesium-137 disintegrates over a period of 90 years, how many g of cesium-137 would remain?

$$\frac{90}{50} = 3 \frac{1}{2}$$

$\begin{pmatrix} 1.5 \\ 0.5 \\ 2.5 \\ 12.5 \text{ g} \end{pmatrix}$

2. Actinium-226 has a half-life of 29 hours. If 100 mg of actinium-226 disintegrates over a period of 58 hours, how many mg of actinium-226 will remain?

58-2-41

100
50
25

3. Sodium-25 was to be used in an experiment, but it took 3.0 minutes to get the sodium from the reactor to the laboratory. If 5.0 mg of sodium-25 was removed from the reactor, how many mg of sodium-25 were placed in the reaction vessel 3.0 minutes later if the half-life of sodium-25 is 60 seconds?

$$\frac{3.0}{1.0} = 34.1$$

$\begin{cases} 5 \text{ mg} \\ 2.5 \\ 1.25 \\ 0.625 \text{ mg} \end{cases}$

4. The half-life of isotope X is 2.0 years. How many years would it take for a 4.0 mg sample of X to decay and have only 0.50 mg of it remain?

$$3 \times 2.0 \text{ yr} = 6 \text{ yr}$$

4.0
2.0
1.0
5.0 } 3 h.L

5. Selenium-83 has a half-life of 25.0 minutes. How many minutes would it take for a 10.0 mg sample to decay and have only 1.25 mg of it remain?

$$3 \times 25 = 75 \text{ mi}^2$$

1.25 3 h.L

6. The half-life of Po-218 is three minutes. How much of a 2.0 gram sample remains after 15 minutes? Suppose you wanted to buy some of this isotope, and it required half an hour for it reach you. How much should you order if you need to use 0.10 gram of this material?

15. 2nd

2.3
1.5
2.2
1.25
1.0425

30m, 10 h.f

10 h.l

$.1 \times 2 \times 2 \times 2 \times 2 = ?$

$2 \times 2 \times 2 = 2 + 2 + 2$

102.4 g

Physical Science If8767 Pg 100 Answers Half Life

K Morrison



Physical Science If8767 Pg 100 Answers Half Life:

If you ally habit such a referred **Physical Science If8767 Pg 100 Answers Half Life** ebook that will present you worth, get the unconditionally best seller from us currently from several preferred authors. If you desire to witty books, lots of novels, tale, jokes, and more fictions collections are then launched, from best seller to one of the most current released.

You may not be perplexed to enjoy every book collections Physical Science If8767 Pg 100 Answers Half Life that we will certainly offer. It is not almost the costs. Its not quite what you habit currently. This Physical Science If8767 Pg 100 Answers Half Life, as one of the most practicing sellers here will totally be accompanied by the best options to review.

<https://crm.avenza.com/About/browse/fetch.php/reset%20berlingo%20esp.pdf>

Table of Contents Physical Science If8767 Pg 100 Answers Half Life

1. Understanding the eBook Physical Science If8767 Pg 100 Answers Half Life
 - The Rise of Digital Reading Physical Science If8767 Pg 100 Answers Half Life
 - Advantages of eBooks Over Traditional Books
2. Identifying Physical Science If8767 Pg 100 Answers Half Life
 - 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 Physical Science If8767 Pg 100 Answers Half Life
 - User-Friendly Interface
4. Exploring eBook Recommendations from Physical Science If8767 Pg 100 Answers Half Life
 - Personalized Recommendations
 - Physical Science If8767 Pg 100 Answers Half Life User Reviews and Ratings
 - Physical Science If8767 Pg 100 Answers Half Life and Bestseller Lists
5. Accessing Physical Science If8767 Pg 100 Answers Half Life Free and Paid eBooks

- Physical Science If8767 Pg 100 Answers Half Life Public Domain eBooks
 - Physical Science If8767 Pg 100 Answers Half Life eBook Subscription Services
 - Physical Science If8767 Pg 100 Answers Half Life Budget-Friendly Options
6. Navigating Physical Science If8767 Pg 100 Answers Half Life eBook Formats
 - ePub, PDF, MOBI, and More
 - Physical Science If8767 Pg 100 Answers Half Life Compatibility with Devices
 - Physical Science If8767 Pg 100 Answers Half Life Enhanced eBook Features
 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Physical Science If8767 Pg 100 Answers Half Life
 - Highlighting and Note-Taking Physical Science If8767 Pg 100 Answers Half Life
 - Interactive Elements Physical Science If8767 Pg 100 Answers Half Life
 8. Staying Engaged with Physical Science If8767 Pg 100 Answers Half Life
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Physical Science If8767 Pg 100 Answers Half Life
 9. Balancing eBooks and Physical Books Physical Science If8767 Pg 100 Answers Half Life
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Physical Science If8767 Pg 100 Answers Half Life
 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
 11. Cultivating a Reading Routine Physical Science If8767 Pg 100 Answers Half Life
 - Setting Reading Goals Physical Science If8767 Pg 100 Answers Half Life
 - Carving Out Dedicated Reading Time
 12. Sourcing Reliable Information of Physical Science If8767 Pg 100 Answers Half Life
 - Fact-Checking eBook Content of Physical Science If8767 Pg 100 Answers Half Life
 - 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

Physical Science If8767 Pg 100 Answers Half Life Introduction

In the digital age, access to information has become easier than ever before. The ability to download Physical Science If8767 Pg 100 Answers Half Life 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 Physical Science If8767 Pg 100 Answers Half Life has opened up a world of possibilities. Downloading Physical Science If8767 Pg 100 Answers Half Life 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 Physical Science If8767 Pg 100 Answers Half Life 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 Physical Science If8767 Pg 100 Answers Half Life. 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 Physical Science If8767 Pg 100 Answers Half Life. 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 Physical Science If8767 Pg 100 Answers Half Life, 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 Physical Science If8767 Pg 100

Answers Half Life 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 Physical Science If8767 Pg 100 Answers Half Life 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. Physical Science If8767 Pg 100 Answers Half Life is one of the best book in our library for free trial. We provide copy of Physical Science If8767 Pg 100 Answers Half Life in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Physical Science If8767 Pg 100 Answers Half Life. Where to download Physical Science If8767 Pg 100 Answers Half Life online for free? Are you looking for Physical Science If8767 Pg 100 Answers Half Life PDF? This is definitely going to save you time and cash in something you should think about.

Find Physical Science If8767 Pg 100 Answers Half Life :

[*reset berlingo esp*](#)

[reporting dates for newly admitted students to rongo university](#)

[research paper lesson plans 4th grade](#)

[reproductive system labeling chapter 20](#)

[report on the catholic church](#)

reset service indicator mercedes e350

report on special economic zones

research in psychology 7th edition goodwin

research and writing guides ottawa university

reproductive system study guide key

research manuscript guide scientific writing

rescue matters! [large print]

research paper outline rubric

requirements for admission at vaal

reset service indicator audi a4 2009

Physical Science If8767 Pg 100 Answers Half Life :

principles of managerial finance 13th edition textbook solutions - Dec 25 2022

web textbook solutions for principles of managerial finance 13th edition 13th edition lawrence j gitman and others in this series view step by step homework solutions for your homework ask our subject experts for help

download pdf solution manual for principles of managerial finance - May 30 2023

web download pdf solution manual for principles of managerial finance 13th edition by gitman 546gy29doxn8

principles of managerial finance lawrence j gitman chad j - Jul 20 2022

web check with the seller prior to purchase gitman s proven learning goal system a hallmark feature of principles of managerial finance weaves pedagogy into concepts and practice providing readers with a roadmap to guide them through the text and supplementary tools the thirteenth edition features new coauthor chad zutter of the

principles of managerial finance global edition open library - Jun 18 2022

web nov 15 2022 created by importbot imported from better world books record principles of managerial finance global edition by gitman lawrence j chad j zutter 2018 pearson higher education professional group edition in english

principles of managerial finance lawrence j gitman chad j - Aug 21 2022

web prentice hall 2012 business enterprises 796 pages gitman s proven learning goal system a hallmark feature of principles of managerial finance weaves pedagogy into concepts and practice providing readers with a roadmap to guide them through the text and supplementary tools

solution manual for principles of managerial finance 13th edition - Mar 28 2023

web solution manual for principles of managerial finance 13th edition by gitman instructor solution manual version read

online for free scribd is the world s largest social reading and publishing site

[principles of managerial finance pearson](#) - Mar 16 2022

web sep 2 2021 principles of managerial finance 16th edition published by pearson september 2 2021 74 99 mylab 109 99

pearson subscription mo month term pay monthly or pay buy now opens in a new tab instant access isbn 13 9780136945758

principles of managerial finance published principles of managerial finance

principles of managerial finance 13th edition solution manual - Apr 28 2023

web principles of managerial finance 13th edition solution manual answers to warm up exercises e10 1 studocu liz task 1

ggof toaz accountitng thorough its all about through mega projects and 7th fyp eco243 lecture 1 economics of planning and

project analysis determinants of stock market development a review of the literature

principles of managerial finance gitman lawrence j free - Nov 23 2022

web introduction to managerial finance 1 overview of managerial finance 2 institutions securities markets and rates 3

financial statements taxes depreciation and cash flow 4 financial statement analysis pt 2 important financial concepts 5 time

value of money 6 risk and return 7 bond and stock valuation pt 3

[principles of managerial finance 13th edition by l j gitman c j](#) - Sep 21 2022

web free essays homework help flashcards research papers book reports term papers history science politics

pdf p13 principles of managerial finance 13th edition by l j gitman - May 18 2022

web pdf on aug 17 2020 hamidah hamidah published p13 principles of managerial finance 13th edition by l j gitman c j find

read and cite all the research you need on researchgate

[principles of managerial finance 13th edition solutions quizlet](#) - Jun 30 2023

web at quizlet we re giving you the tools you need to take on any subject without having to carry around solutions manuals or

printing out pdfs now with expert verified solutions from principles of managerial finance 13th edition you ll learn how to

solve your toughest homework problems

solution manual for principles of managerial finance 13th edition by gitman - Aug 01 2023

web description download solution manual for principles of managerial finance 13th edition by gitman pdf for free download

solution manual for principles of managerial finance 13th edition by gitman pdf

[principles of managerial finance solution manual chegg com](#) - Feb 24 2023

web get started select your edition below by 15th edition author scott b smart scott smart 873 solutions available by 14th

edition author lawrence j gitman chad j zutter 803 solutions available by 13th edition author chad zutter lawrence j gitman

lawrence j gitman chad j zutter chad j zutter 870 solutions available by 12th edition

principles of managerial finance lawrence j gitman chad j - Feb 12 2022

web in principles of managerial finance fourteenth edition gitman and zutter guide you through the complexities of finance with their proven learning system teaching and learning aids are woven into concepts and practice creating a roadmap to

chapter 5 solution manual for principles of managerial finance 13th - Oct 03 2023

web chapter 5 solution manual for principles of managerial finance 13th edition lawrence compress free download as pdf file pdf text file txt or read online for free scribd is the world s largest social reading and publishing site

principles of managerial finance 13th edition gitman solutions - Oct 23 2022

web apr 14 2019 principles of managerial finance 13th edition gitman solutions manual principles of managerial finance 13th edition gitman solutions manual full download

principles of managerial finance gitman lawrence j free - Jan 26 2023

web pt 1 introduction to managerial finance pt 2 financial tools 3 valuation of securities pt 4 risk and the required rate of return pt 5 long term investment decisions pt 6 long term financial decisions pt 7 short term financial decisions pt 8 special topics in managerial finance

managerial finance 13th edition by lawrence gitman - Apr 16 2022

web nov 25 2022 book name principles of managerial finance authors lawrence j gitman chad j zutter edition 13th edition language english file size 14 10 mb pages 947 media source google drive

principles of managerial finance 13th edition textbook solutions - Sep 02 2023

web principles of managerial finance 13th edition we have solutions for your book this problem has been solved problem 1e chapter ch1 problem 1e step by step solution step 1 of 4 ms a and mr j have been partners for several years ms a want to incorporate the business whereas mr j wants to continue with partnership form of ownership

dampfgarer kochbuch die 255 besten und genussvollsten - Nov 05 2022

web dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts german edition ebook experten dampfgarer

dampfgarer kochbuch die 255 besten und genussvollsten - Oct 04 2022

web dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts experten dampfgarer amazon pl książki

suchergebnis auf amazon de für dampfgaren kochbuch bücher - Dec 06 2022

web dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts german edition ebook experten dampfgarer

dampfgarer kochbuch die 255 besten und genussvollsten - Sep 03 2022

web dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts

german edition ebook experten dampfgarer

dampfgarer kochbuch die 255 besten und genussvollsten - Dec 26 2021

amazon de kundenrezensionen dampfgarer kochbuch die 255 - Jan 07 2023

web ergebnisse erfahre mehr über diese ergebnisse dampfgarer kochbuch xxl 250 rezepte für ihren dampfgarer die besten und leckersten fleisch fisch gemüse

dampfgarer kochbuch die 255 besten und genussvollsten - Aug 02 2022

web dampfgarer kochbuch die 280 besten dampfgarer rezepte für eine gesunde und ausgewogene ernährung groth tamara isbn 9798713035266 kostenloser

dampfgarer kochbuch die 255 besten und genussvollsten - Jan 27 2022

web may 7 2019 dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts german edition kindle edition by

dampfgarer kochbuch die 150 besten rezepte für gesundes - Apr 29 2022

web dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse more product info from dampfgarer experten view product on amazon de

dampfgarer kochbuch die 255 besten und genussvoll - Feb 25 2022

web dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts experten dampfgarer amazon es libros

die besten kochbücher für den dampfgarer clevergaren com - May 31 2022

web dampfgarer kochbuch die 150 besten rezepte für gesundes dampfgaren schonendes garen mit dampf im steamer leckere und gesunde gerichte für die schnelle küche

dampfgarer kochbuch die 255 besten und genussvollsten - Mar 09 2023

web entdecken sie die gesunde küche mit kaum oder keinem fett lernen sie die kunst des schmackhaften dämpfens nie wieder eine mahlzeit anbrennen oder verkochen

dampfgarer kochbuch die 255 besten und genussvollsten - Feb 08 2023

web finden sie hilfreiche kundenrezensionen und rezensionsbewertungen für dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse

dampfgarer kochbuch die 255 besten und genussvollsten - Mar 29 2022

web dampfgarer kochbuch die 255 besten und genussvoll downloaded from blog theupside com by guest hull dominique ramen springer nature an accessible

die 13 besten dampfgarer kochbücher kochbuchwelt de - May 11 2023

web buy dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts
by online on amazon ae at best prices fast

dampfgarer kochbuch die 255 besten und genussvollsten - Apr 10 2023

web amazon in buy dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und
desserts book online at best prices in india

dampfgarer kochbuch die 255 besten und genussvollsten - Jul 13 2023

web dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts
ebook experten dampfgarer amazon de

dampfgarer kochbuch die 255 besten und genussvollsten - Aug 14 2023

web dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und desserts
experten dampfgarer isbn 9781097394982

dampfgarer kochbuch die 280 besten dampfgarer rezepte für - Jul 01 2022

web apr 30 2023 zu amazon das buch ist eine gute einstiegshilfe ins dampfgaren zwar ist es eigentlich auf ein miele gerät
ausgelegt jedoch lassen sich sowohl die infos als auch

dampfgarer kochbuch die 255 besten und genussvollsten - Jun 12 2023

web may 8 2019 dampfgarer kochbuch die 255 besten und genussvollsten rezepte für fleisch fisch gemüse nudeln reis und
desserts german edition experten

amurao la boda roja spanish edition kindle edition - Apr 17 2023

dec 10 2019 amurao la boda roja spanish edition kindle edition by barrero fran download it once and read it on your kindle
device pc phones or tablets use features like

amazon com amurao la boda roja spanish edition - Jun 19 2023

amazon com amurao la boda roja spanish edition 9798448911361 barrero fran libros

amurao la boda roja spanish edition tapa blanda - Oct 31 2021

amazon com amurao la boda roja spanish edition 9781674493015 barrero fran libros

amurao series by fran barrero goodreads - Jul 20 2023

book 1 amurao el purgatorio de los niños perdidos by fran barrero 3 91 103 ratings 27 reviews 4 editions primera entrega de
la saga en un inusualmen want to

amurao la boda roja edición kindle amazon com mx - Jan 14 2023

seleccionar el departamento en el que deseas buscar

[amurao la boda roja de fran barrero en pdf mobi y epub](#) - Jul 08 2022

descargá gratis el libro amurao la boda roja tres casos tres novelas en una un homenaje a primeros casos de poirot de agatha christie la boda roja una pareja de recién casados

welcome to tamara rojo s official site tamara rojo - Jan 02 2022

tamara rojo stage farewell her career summarized in fifteen videos idea collected from the great article written by amélie bertrand adieux à la scène de tamara rojo sa

amurao la boda roja barrero fran amazon es libros - Aug 21 2023

tres casos tres novelas en una un homenaje a primeros casos de poirot de agatha christie la boda roja una pareja de recién casados es encontrada muerta en los aseos del salón en que

[amurao la boda roja barrero fran amazon com au books](#) - Jun 07 2022

select the department you want to search in

amurao la boda roja versión kindle amazon es - Sep 22 2023

cuando desaparece el tercer niño de ocho años en la misma zona de la ciudad el caso pasa a manos de collado y garza que tendrán que lidiar con el hermetismo de las familias y con los

amurao la boda roja spanish edition kindle edition - Oct 11 2022

amurao la boda roja spanish edition ebook barrero fran amazon co uk kindle store

tamara falcó comparte los detalles y fotos inéditas de su boda - Feb 03 2022

sep 23 2023 efectivamente el vestido negro con motivos florales metalizados de la colección otoño invierno 2023 de carolina herrera fue el punto de partida de su ya famoso vestido de

amurao la boda roja barrero fran amazon es libros - May 18 2023

amurao la boda roja barrero fran amazon es libros también utilizamos estas cookies para entender cómo utilizan los clientes nuestros servicios por ejemplo mediante la

amurao la sombra de la dama blanca versión kindle - Aug 09 2022

amurao la sombra de la dama blanca versión kindle de fran barrero autor formato versión kindle 4 5 85 valoraciones libro 9 de 12 amurao ver todos los formatos y

[amurao la boda roja fran barrero babelio](#) - Sep 10 2022

una pareja de recién casados es encontrada muerta en los aseos del salón en que celebraban su enlace nadie parece haber visto nada cristina collado y su nuevo compañero victor

amurao la boda roja spanish edition kindle edition - Feb 15 2023

amurao la boda roja spanish edition ebook barrero fran amazon com au kindle store

descargar pdf amurao la boda roja fran barrero gratis - May 06 2022

pdf epub amurao la boda roja descargar novela independiente y autoconclusiva 6ª entrega de la sagatres casos tres novelas en una un homenaje a primeros casos de

amurao la boda roja ebook barrero fran amazon es - Dec 01 2021

selecciona el departamento que quieras buscar

amurao la boda roja paperback 11 dec 2019 amazon co uk - Mar 16 2023

buy amurao la boda roja by barrero fran isbn 9781674493015 from amazon s book store everyday low prices and free delivery on eligible orders

la desorbitada cantidad económica por la que susanna griso - Mar 04 2022

2 days ago el plató de espejo público atresmedia la presentadora ha señalado que era una cantidad superior a 100 000 euros y que se replanteó seriamente si aceptar esta propuesta y

amurao la boda roja amurao 6 by fran barrero goodreads - Dec 13 2022

una pareja de recién casados es encontrada muerta en los aseos del salón en que celebraban su enlace nadie parece haber visto nada cristina collado y su nuevo compañero victor

amurao la boda roja spanish edition hardcover - Nov 12 2022

apr 8 2022 amurao la boda roja spanish edition barrero fran on amazon com free shipping on qualifying offers amurao la boda roja spanish edition

kırmızı oda - Apr 05 2022

dec 2 2020 22 28 13 kırmızı