

Names: _____

Thermodynamics IN CLASS Skill Review

Skill - Can define and identify direction of heat flow for exothermic and endothermic situations. Before completing the calculations below, answer the following:

- Provide the labels exothermic and endothermic, to the following pictures:

a. What are some everyday examples of

endothermic:

exothermic and endothermic reactions?

Answers may vary - exothermic (hot pad),

endothermic (baking a cake).

exothermic:



- Label the following reactions as being exothermic or endothermic:

a. As a tree grows, photosynthesis **absorbs** energy from the environment to break apart CO_2 and H_2O .

endothermic

b. Sweating cools a person down as energy is **released** from the skin to change water into a gas.

exothermic

Skill - Use the equation $\Delta E = q + w$ correctly when given these terms in a real-world situation.

For the following, calculate the ΔE and label each scenario as describing an exothermic or endothermic reaction:

- A system releases 23 J of heat while 12 J of work is done on it. What is the ΔE ?

$$\Delta E = q + w \rightarrow -23\text{J} + 12\text{J} = \mathbf{-11\text{J} \text{ exothermic}}$$

- If a system absorbs 67 J of heat and performs 32 J of work, what is the ΔE ?

$$\Delta E = q + w \rightarrow 67\text{J} + -32\text{J} = \mathbf{35\text{J} \text{ endothermic}}$$

Skill - Use $q = \text{m} \times \text{c} \times \Delta T$ to calculate the missing quantity, given the others.

Be sure to show all work required for the following calculations:

- Graphite has specific heat of $0.709 \text{ J/g}^\circ\text{C}$. If a 25.0g piece of graphite is cooled from 35°C to 18°C , how much energy was lost by the graphite? Is the reaction endothermic or exothermic?

$$Q = \text{m} \times \text{c} \times \Delta T \rightarrow 0.709\text{J/g}^\circ\text{C} \times 25.0\text{g} \times -17^\circ\text{C} = \mathbf{-300\text{J} \text{ exothermic}}$$

- An unknown substance with a mass of 100.0g, **absorbs** $1.0 \times 10^3 \text{ J}$ while undergoing a temperature increase of 25°C . What is the specific heat of the substance? Is the reaction endothermic or exothermic?

$$Q = \text{m} \times \text{c} \times \Delta T \rightarrow \text{c} = Q / \text{m} \times \Delta T \rightarrow 1.0 \times 10^3 \text{ J} / (100.0\text{g} \times 25^\circ\text{C}) = \mathbf{0.4\text{J/g}^\circ\text{C}, Q \text{ is endothermic}}$$

Smurray Electricity And Thermodynamics Review

Answer Key

JL Elias



Smurray Electricity And Thermodynamics Review Answer Key:

Fuel your quest for knowledge with Learn from is thought-provoking masterpiece, **Smurray Electricity And Thermodynamics Review Answer Key** . This educational ebook, conveniently sized in PDF (*), is a gateway to personal growth and intellectual stimulation. Immerse yourself in the enriching content curated to cater to every eager mind. Download now and embark on a learning journey that promises to expand your horizons. .

https://movement.livewellcolorado.org/results/Resources/Download_PDFS/traitor%20veronica%20roth.pdf

Table of Contents Smurray Electricity And Thermodynamics Review Answer Key

1. Understanding the eBook Smurray Electricity And Thermodynamics Review Answer Key
 - The Rise of Digital Reading Smurray Electricity And Thermodynamics Review Answer Key
 - Advantages of eBooks Over Traditional Books
2. Identifying Smurray Electricity And Thermodynamics Review Answer Key
 - 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 Smurray Electricity And Thermodynamics Review Answer Key
 - User-Friendly Interface
4. Exploring eBook Recommendations from Smurray Electricity And Thermodynamics Review Answer Key
 - Personalized Recommendations
 - Smurray Electricity And Thermodynamics Review Answer Key User Reviews and Ratings
 - Smurray Electricity And Thermodynamics Review Answer Key and Bestseller Lists
5. Accessing Smurray Electricity And Thermodynamics Review Answer Key Free and Paid eBooks
 - Smurray Electricity And Thermodynamics Review Answer Key Public Domain eBooks
 - Smurray Electricity And Thermodynamics Review Answer Key eBook Subscription Services
 - Smurray Electricity And Thermodynamics Review Answer Key Budget-Friendly Options

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

Smurray Electricity And Thermodynamics Review Answer Key Introduction

Free PDF Books and Manuals for Download: Unlocking Knowledge at Your Fingertips In today's fast-paced digital age, obtaining valuable knowledge has become easier than ever. Thanks to the internet, a vast array of books and manuals are now available for free download in PDF format. Whether you are a student, professional, or simply an avid reader, this treasure trove of downloadable resources offers a wealth of information, conveniently accessible anytime, anywhere. The advent of online libraries and platforms dedicated to sharing knowledge has revolutionized the way we consume information. No longer confined to physical libraries or bookstores, readers can now access an extensive collection of digital books and manuals with just a few clicks. These resources, available in PDF, Microsoft Word, and PowerPoint formats, cater to a wide range of interests, including literature, technology, science, history, and much more. One notable platform where you can explore and download free Smurray Electricity And Thermodynamics Review Answer Key PDF books and manuals is the internet's largest free library. Hosted online, this catalog compiles a vast assortment of documents, making it a veritable goldmine of knowledge. With its easy-to-use website interface and customizable PDF generator, this platform offers a user-friendly experience, allowing individuals to effortlessly navigate and access the information they seek. The availability of free PDF books and manuals on this platform demonstrates its commitment to democratizing education and empowering individuals with the tools needed to succeed in their chosen fields. It allows anyone, regardless of their background or financial limitations, to expand their horizons and gain insights from experts in various disciplines. One of the most significant advantages of downloading PDF books and manuals lies in their portability. Unlike physical copies, digital books can be stored and carried on a single device, such as a tablet or smartphone, saving valuable space and weight. This convenience makes it possible for readers to have their entire library at their fingertips, whether they are commuting, traveling, or simply enjoying a lazy afternoon at home. Additionally, digital files are easily searchable, enabling readers to locate specific information within seconds. With a few keystrokes, users can search for keywords, topics, or phrases, making research and finding relevant information a breeze. This efficiency saves time and effort, streamlining the learning process and allowing individuals to focus on extracting the information they need. Furthermore, the availability of free PDF books and manuals fosters a culture of continuous learning. By removing financial barriers, more people can access educational resources and pursue lifelong learning, contributing to personal growth and professional development. This democratization of knowledge promotes intellectual curiosity and empowers individuals to become lifelong learners, promoting progress and innovation in various fields. It is worth noting that while accessing free Smurray Electricity And Thermodynamics Review Answer Key PDF books and manuals is convenient and cost-effective, it is vital to respect copyright laws and intellectual

property rights. Platforms offering free downloads often operate within legal boundaries, ensuring that the materials they provide are either in the public domain or authorized for distribution. By adhering to copyright laws, users can enjoy the benefits of free access to knowledge while supporting the authors and publishers who make these resources available. In conclusion, the availability of Smurray Electricity And Thermodynamics Review Answer Key free PDF books and manuals for download has revolutionized the way we access and consume knowledge. With just a few clicks, individuals can explore a vast collection of resources across different disciplines, all free of charge. This accessibility empowers individuals to become lifelong learners, contributing to personal growth, professional development, and the advancement of society as a whole. So why not unlock a world of knowledge today? Start exploring the vast sea of free PDF books and manuals waiting to be discovered right at your fingertips.

FAQs About Smurray Electricity And Thermodynamics Review Answer Key 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 webbased 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. Smurray Electricity And Thermodynamics Review Answer Key is one of the best book in our library for free trial. We provide copy of Smurray Electricity And Thermodynamics Review Answer Key in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Smurray Electricity And Thermodynamics Review Answer Key. Where to download Smurray Electricity And Thermodynamics Review Answer Key online for free? Are you looking for Smurray Electricity And Thermodynamics Review Answer Key PDF? This is definitely going to save you time and cash in something you should think about. If you trying to find then search around for online. Without a doubt there are numerous these available and many of them have the freedom. However without doubt you receive whatever you purchase. An alternate way to get ideas is always to check another Smurray Electricity And Thermodynamics Review Answer Key. This method for see exactly what may be included and adopt 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 to assist you try this. Several of Smurray Electricity And Thermodynamics Review Answer Key are for sale to free while some are payable. If you arent sure if the books you would like to download works with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to free access 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 Smurray Electricity And Thermodynamics Review Answer Key. 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 Smurray Electricity And Thermodynamics Review Answer Key To get started finding Smurray Electricity And Thermodynamics Review Answer Key, 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 Smurray Electricity And Thermodynamics Review Answer Key So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading Smurray Electricity And Thermodynamics Review Answer Key. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Smurray Electricity And Thermodynamics Review Answer Key, 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. Smurray Electricity And Thermodynamics Review Answer Key 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, Smurray Electricity And Thermodynamics Review Answer Key is universally compatible with any devices to read.

Find Smurray Electricity And Thermodynamics Review Answer Key :

traitor veronica roth

tpc sawgrass yardage guide

training manual for subway

trailer backup guide rod

trane reciprocating refrigeration manual

tragedy of julius caesar act 5

training guide on delegation

trane cgaf manual

traffic report in ft worth

trane manual baysens019b

tracker pro team 175 owners manual

~~traeger brisket smoking recipe~~

tranches de vie

tractor trailer 7 pin wiring diagram

~~trail lite owners manual~~

Smurray Electricity And Thermodynamics Review Answer Key :

ripple tank wikipedia - Oct 26 2022

web in physics a ripple tank is a shallow glass tank of water used to demonstrate the basic properties of waves it is a specialized form of a wave tank the ripple tank is usually illuminated from above so that the light shines through the water some small ripple tanks fit onto the top of an overhead projector i e

lab 25 ripple tank wave phenomena - Jun 21 2022

web mar 1 2015 strong lab strong strong 25 strong strong ripple strong strong tank strong strong wave strong strong phenomena strong strong introduction strong strong in strong this experiment we observe some properties of waves with the aid of a ripple tank

practical physics basic experiments with ripple tanks aapt - Jul 23 2022

web aug 16 2020 this resource contains a set of eight introductory experiments on wave reflections appropriate for use in high school and middle school use of the ripple tank can be a powerful tool to help students visualize wave behavior in general

ripple tank wave phenomena harvard natural sciences - Feb 27 2023

web what it shows various wave phenomena demonstrated with water waves circular waves from point sources plane waves from an array of point sources change of wavelength with frequency and or speed reflection of waves refraction of waves focusing of waves standing waves interference from point sources interference and diffraction from

measuring waves in a ripple tank iopspark - Nov 26 2022

web measuring waves in a ripple tank using the stroboscope to freeze waves in a ripple tank and to confirm the relationship between wave speed frequency and wavelength

ripple tank 11 docx lab report lab report 10 experiment - Sep 24 2022

web date of submission dec 24 2019 introduction ripple tank is an apparatus to study the processes like reflection refraction diffraction etc it consists of a tank wave generator and a light source waves are generated by wave generator whose frequency and amplitude can be controlled

practical physics basic experiments with ripple tanks aapt - Feb 15 2022

web aug 16 2020 this resource contains a set of eight introductory experiments on wave reflections appropriate for use in high school and middle school students are introduced to ripple tanks and gain confidence in using them by

ripple tank mini physics learn physics - Jul 03 2023

web jan 25 2011 the ripple tank is used to generate water waves in laboratory it is useful in demonstrating wave properties such as reflection and refraction it consists of a shallow tray of water with a transparent base a light source directly above the tray and a white screen beneath the tray to capture the image of the shadows formed when

copy of aidan warren ripple tank lab studocu - Dec 28 2022

web ripple tank lab use a ripple tank to investigate wave properties of reflection refraction and diffraction a ripple tank provides an ideal medium for observing the behavior of waves the ripple tank projects images of waves in the water onto a screen below the tank

ph0767a ripple tank science2education co uk - May 01 2023

web ripple tanks are used to study water wave behavior in two dimensions the more abstract concepts of reflection refraction dispersion and interference can be demonstrated by a ripple tank and then applied to other wave phenomena

ripple tank lab the physics classroom - Jun 02 2023

web lab ripple tank lab teacher s guide topic light and color the following information is provided to the student question how is the path difference related to the wavelength of light for a two point source interference pattern

wave phenomena ripple tank experiments two weights - Aug 04 2023

web the ripple tank provides an ideal laboratory context for a first study of wave phenomena wave phenomena are ubiquitous in the natural world and have been as a result been studied extensively

physicslab ripple tank sample solutions - Jan 29 2023

web diffraction diffraction is the bending of a wave around an obstacle or through an opening the closer the obstacle opening is to the wave s wavelength the greater the amount of diffraction the amount of diffraction decreases as the curvature of the diffracted wavefront decreases and the calm area behind the obstacle opening increases

6 9 1 interference ripple tank simulation physics libretexts - Apr 19 2022

web this simulation shows a top view of a source making waves on the surface of a tank of water imagine tapping the surface

of a pond with the end of a stick at regular intervals the white circles coming from the spot represents the wave crests with troughs in between

[wave phenomena ripple tank experiments university of toronto](#) - Sep 05 2023

web the ripple tank can be used to study almost all the wave properties reflection refraction interference and diffraction in addition to this the wave phase velocity can be investigated at different water depths and in the presence of obstacles of various shapes wave properties the wave speed

gcse physics revision required practical 8 ripple tank - Aug 24 2022

web jan 14 2018 about press copyright contact us creators advertise developers terms privacy policy safety how youtube works test new features nfl sunday ticket press copyright

practical measuring waves in a ripple tank properties of waves - Oct 06 2023

web to measure the frequency wavelength and speed of waves in a ripple tank method set up the ripple tank as shown in the diagram with about 5 cm depth of water adjust the height of the

physicslab ripple tank review - Mar 19 2022

web the bending of a wavefront resulting from a change in medium a waveform pattern representing the superposition of two or more component waveforms the bending of a wavefront through an opening or around an obstacle the bouncing of a wave off of an interface back into its original medium a line which is perpendicular to a surface

[basic experiments with ripple tanks iopspark](#) - Mar 31 2023

web basic experiments with ripple tanks for 14 16 introducing the ripple tank a powerful tool that can help students visualize wave behaviour in general by pointing out that wavefronts are perpendicular to the direction of motion of the wave you can link ripple tank experiments to experiments in optics where rays show the direction of motion

an old experiment revisited the doppler effect in a ripple tank - May 21 2022

web jul 1 2016 the experiment showed a that the doppler shift waves can be visualised clearly using the simplified ripple tank and b that the observed number of waves in such an experiment is consistent

acid base titration lab 39 answers pdf course hero - Aug 02 2022

web naoh aq $\text{hc}_2\text{h}_3\text{O}_2$ aq h_2O l $\text{nac}_2\text{h}_3\text{O}_2$ aq balanced what is the mole ratio between the acid and the base from the balanced equation 1 moles of acid to 1 moles

solved laboratory 6 acid base titration - Mar 09 2023

web titration answer key vocabulary acid analyte base dissociate equivalence point indicator litmus paper molarity neutralize ph strong acid strong base titrant

ap acid base lab lab acid base titration lab anjali studocu - Feb 25 2022

14 7 acid base titrations chemistry 2e openstax - Jul 01 2022

web may 10 2021 in this activity your goal is to determine the molar concentration and strength of two acid solutions by conducting titrations with a base solution of known

titration screen experiment resource rsc education - Apr 10 2023

web this laboratory exercise relies on a titration technique to determine an unknown concentration of monoprotic acid in solution in the process of titration a basic solution

titration questions practice titrations khan academy - May 31 2022

web acid base extraction key chem 546 lab 2 acid base separation of a mixture answer key pre lab studocu skip to document acid base extraction complete answer

17 3 acid base titrations chemistry libretexts - Feb 08 2023

web to learn to calculate molarity based on titrations introduction molarity m or molar concentration is a common unit for expressing the concentration of solutions experiment

acid base titration lab flashcards quizlet - Jan 27 2022

8 acid bases and ph experiment chemistry libretexts - Jan 07 2023

web solution a titrant volume 0 ml the solution ph is due to the acid ionization of hcl because this is a strong acid the ionization is complete and the hydronium ion molarity

acid base chemistry titration lab - May 11 2023

web titration experiment in the neutralization of hydrochloric acid by sodium hydroxide the mole ratio of acid to base is 1 1 hcl aq naoh aq nacl aq h₂o l hcl a q

titration se key gizmo hgjh 2019 titration answer key - Sep 03 2022

web acid base titration lab anjali sammata 10 28 objective determine the molarity of hydrochloric acid solution by titration reactions khc 8 4 4 h o s naoh aq

3 10 titration worksheet chemistry libretexts - Jun 12 2023

web oct 15 2022 it should be noted that the ph scale does extend beyond 0 and 14 strong laboratory acids typically have ph values less than 0 negative ph values and strong

experiment 2 acid base titration purdue university - Oct 04 2022

web acids and bases are partners an acid generically represented by ha is a proton h donor whereas a base generically represented by b is a proton acceptor when

acid base titrations introductory chemistry 1st canadian edition - Oct 24 2021

[acid base titration lab dataclassroom](#) - Dec 26 2021

21 17 titration experiment chemistry libretexts - Nov 05 2022

web chem 1210 spring 2019 experiment 10 11 part 1 acid base titration abstract the purpose of this experiment is to observe the titration of hydrochloric acid a strong acid

[acid base titration lab answers docsity](#) - Dec 06 2022

web titration questions acid base titrations worked example determining solute concentration by acid base titration titration of a strong acid with a strong base

lab 6 acid base titration chemistry libretexts - Aug 14 2023

web jun 18 2019 in a strong acid strong base titration neutralization produces water and an aqueous solution of a salt whose cation and anion come from the base and acid

acid base extraction key chem 546 lab 2 acid base - Nov 24 2021

titration lab answer key answers for 2023 exams - Sep 22 2021

[experiment 8 acid base titration boston university](#) - Mar 29 2022

web 3987 experiment 7 acid base titrations in an acid base titration the neutralization reaction between the acid and base can be reading is at exactly at zero then report

acid base titration chemistry 1210 lab report containing an - Apr 29 2022

web acid base titrations learning objectives describe a titration experiment explain what an indicator does perform a titration calculation correctly the reaction of an acid with a

7 2 lab titrations chemistry libretexts - Jul 13 2023

web one type of titration uses a neutralization reaction in which an acid and a base react to produce a salt and water in equation 1 the acid is hcl hydrochloric acid and the base

far from the madding crowd by thomas hardy goodreads - May 10 2023

web far from the madding crowd is the poignant moving and brilliant story of bathsheba everdene and her three suitors love is a possible strength in an actual weakness bathsheba everdene strong wilful independent and above all beautiful bathsheba is a woman ahead of her time

far from the madding crowd full book summary sparknotes - Jul 12 2023

web full book summary at the beginning of the novel bathsheba everdene is a beautiful young woman without a fortune she

meets gabriel oak a young farmer and saves his life one evening he asks her to marry him but she refuses because she does not love him

[far from the madding crowd bbc film](#) - Feb 07 2023

web may 1 2015 based on the literary classic by thomas hardy far from the madding crowd is the story of independent beautiful and headstrong bathsheba everdene carey mulligan who attracts three very

far from the madding crowd movie review 2015 roger ebert - Mar 08 2023

web may 1 2015 far from the madding crowd is all about the capriciousness of fate and the way it can drastically alter the trajectory of a young woman who thinks she knows exactly what she wants in a place that s meant to be sedate and safe

[far from the madding crowd 2015 imdb](#) - Aug 13 2023

web may 22 2015 far from the madding crowd directed by thomas vinterberg with carey mulligan matthias schoenaerts tilly vosburgh mark wingett in victorian england the independent and headstrong bathsheba everdene attracts three very different suitors gabriel oak a sheep farmer frank troy a reckless sergeant and william boldwood a

[far from the madding crowd wikipedia](#) - Oct 15 2023

web far from the madding crowd 1874 is thomas hardy s fourth published novel and his first major literary success it originally appeared anonymously as a monthly serial in cornhill magazine where it gained a wide readership

far from the madding crowd 2015 film wikipedia - Sep 14 2023

web far from the madding crowd is a 2015 british romantic drama film directed by thomas vinterberg and starring carey mulligan matthias schoenaerts tom sturridge michael sheen and juno temple an adaptation by david nicholls of the 1874 novel far from the madding crowd by thomas hardy it is the fourth film adaptation of the novel

far from the madding crowd study guide litcharts - Jun 11 2023

web the best study guide to far from the madding crowd on the planet from the creators of sparknotes get the summaries analysis and quotes you need

[far from the madding crowd rotten tomatoes](#) - Apr 09 2023

web far from the madding crowd invites tough comparisons to thomas hardy s classic novel and its previous adaptation but stands on its own thanks to strong direction and a talented cast read